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ORIGINAL ARTICLES.

NERVOUS MATTER, WHAT IS IT?—AUDITORY NERVES.

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IN considering the characteristic properties of the nervous matter constituting the above-named nerves, we have to deal not only with an agency by whose operations another special sense is accomplished, but to contrast it with those other special senses of olfaction and of vision that have formed the subject of our recent investigations. In the first place, what must be the nature of the nervous matter by which the special sense of audition exists and is bestowed, and in what respect does it differ from the nervous material that gives olfaction, and that which imparts vision? The fact of identity revealed by the microscope as respects this nervous matter is, that the nerves of the special sense of hearing are constituted of the same material as that by which olfaction and vision are perfected, the material to which the name "substantia gelatinosa" has been given—the inappropriateness of which name we have already considered—but which, in its physiological sense, designates it as possessing an intrinsic vitality of an intense character and of most exquisite susceptibilities, properties which it holds in common with the other nerves of special sense. As respects any fact of difference between them, the material composing the auditory nerves is of softer consistence, hence its name, "portio mollis," or soft portion of the auditory, as contrasted with the "portio dura," or hard substance of the facial, with which it is closely connected at its origin, and which latter fact will be considered later on, in relation to facial expression under certain acoustic influences. The next observable difference is seen in the deeper hue of the gray color of the auditory—a fact to which we call special attention—and which is due to "its fusiform nerve-cells and its nucleated ganglionic enlargements," which latter peculiarities, with others in addition, will be fully considered when we look into the many points of origin, cerebral, cerebellar and those from the medulla oblongata, all giving birth to the auditory nerves. The most salient and important fact concerning these nerves is as to the nature of the impression made upon them by which their functional activities are stimulated, and its "modus operandi." This is just as interesting and just as inexplicable as we found the solution of the "quo modo" of luminous impressions upon the rods and cones of the retina, and the effects of exhalations from aromatic and fragrant substances upon the tendrils of the olfactory trinity, when we investigated their receptive, appropriative and diffusive powers and properties, and their mysterious influences upon the mental, moral, emotional and psychic qualities of the mind, and their inhibitory and perverting interference with many of the functional processes constantly in operation in the body. Nor are we able to define the thoughts and sensations, natural and unnatural, devotional and superstitious, realistic and imaginary, with which we are overpeopled, so to speak, and oppressed by their subtle and potential power.

And now we have to pass in review another of these same special senses, and to try to discover how and why we are indebted to it for that beneficent sense whereby the social fellowship of life, the community of thought and the mutual interchange of the endearing words of love and affection are conveyed to us, and implanted, like "good seed," to grow and bear fruit grateful to the taste and wholesome to all of the best elements of our nature, and that shall tend to eradicate whatever of evil may lurk unseen, and, may be, unsuspected within. All of us, no doubt, have had the question asked, If the choice were given us, which of the two senses, seeing or hearing, we would soonest part with. In either case we would have the consolation afforded by that universal law of compensation, and were the necessity imposed of parting with either, its loss would, in great measure, be compensated by increased power in the remaining sense. As to this, however, we feel very much like the man who was blessed with the two invaluable blessings of "a good digestion that waited on appetite," and when asked which meal he preferred of the three he consumed daily, replied that he was "a pretty good hand at breakfast, could hold his own with any man at dinner, but he was a devil of a fellow at supper," and so, like him, we don't care to entertain the thought of the deprivation of either sense, but want 'em all. Both physiology and pathology have amply proved that, as the olfactory and optic nerves receive and appropriate each its own specific functional stimulus of odor and light, so are the auditory nerves responsive to the impressions of sound and to them

alone. Indeed, according to some physiologists, the auditory nerves, when suddenly injured, give the sensation of sound, just as we have seen that the optic perceive the luminous flashes when irritated by either a blow upon the eye or the sudden passage of an electric current, and its impaction upon the retina. Now let us reason together a little upon this strange thing of elective affinity in these nerves for their own peculiar pabulum of odor, light and sound, and see what we can make of it, or if we can make anything at all of it that either reason or the stringency of scientific requirement will permit. Our reader will remember that in discussing the "pourquoi" of the affinity of the optic nerves for light and luminous impressions, and for them alone, we said, "What then can be the nature of the nervous matter of the optic nerve?" Is the vitality of this nervous matter of an electric nature, or, if the luminous impressions made upon the optic nervous matter be not electric or electro-magnetic or dynamic, can they be of a psychic or spiritual nature, with a potentiality so mysterious, so intangible and so inexplicable that any and every mode or method of explanation or solution that the present finite resources of science can offer avail nothing in the attempt to define or characterize it. Light, and nothing but light, can make its impression felt here.

So do we say now, What can be the nature of the auditory nervous matter, and why does it respond to sound alone? Can this question be answered by proposing another, viz.: Why does a common nerve of sensation produce sensation, and that alone, and why does a nerve of motion effect motion, and that alone? The question is generally answered in the books by saying that it is because a nerve of sensation has a large element, composed principally of gray nervous matter, and, *vice versa*, a nerve of motion has as its component material white matter. This is true, but it does not answer the original question at all. Then we have to fall back upon the inquiry, Why does gray matter impart sensation, and why is motion the exclusive property of white nervous substance, and, in addition, what is the nature of the material that gives to the olfactory, optic and auditory nerves the specific properties of special sense, and how does it differ from the ordinary gray and white matter of sensation and motion? Two suggestions present themselves to us here, and, though we are compelled to acknowledge their lameness and impotence in helping us out of our difficulty, yet we offer them for what they are worth. Let us examine these nerves seriatim, and what do we find? A common motor nerve is made up principally of white nervous matter. Experiment has abundantly proved it to be a nerve of motion. We have but to recall Sir Charles Bell's division of the auterior and posterior nerves of the cord and their respective attributes of motion and sensation to establish these properties, to which might be added the results of almost innumerable investigations by more modern authorities. What says the microscopic history of white nervous matter? Does it not declare it to be principally of a fibrous character, and of a comparatively low grade of vitality, but sufficient to convey to the muscular structures of the body the necessary stimulus, be it electric, electro-magnetic, galvanic, dynamic, and the result is voluntary muscular motility as contrasted with the involuntary coming from another source. Whence comes the stimulus with which this common carrier of motility is inspired and vitalized? It is from the white matter of the brain and spinal cord, and, being so, what are the utilities of the white cerebral and spinal nervous matter? We do not propose to undertake a lengthened detail of the various opinions of authorities upon this subject as set down in the books, but will sum up the mutual consensus as respects the utility of the white nervous matter as contra-distinguished from the gray, and also from the ganglionic, sympathetic, etc. White matter, then, whether cerebral or spinal, is essentially motor in its operations and influences.

What makes it motor? Again we appeal to a recognized authority upon the primitive and aboriginal genesis of matter and of its multifarious capabilities of producing life—Lionel Beale. He declares that nothing ever was made, ever can be made, or ever will be made, except through the creating powers of bioplasm. The term he uses, bioplasm, from βιος, life, and πλασμα, deposit, is, as we think, a happy one as contra-distinguished from that one now in common use, protoplasm, πρωτος, first, πλασμα, deposit, and, if permissible, we would suggest that a combination of the two, viz.: Proto bioplasm, signifying primitive deposit, creative of life, by its double signification, would seem to meet every necessary requirement and be sufficiently suggestive of the end proposed.

At this point our reader will forgive a brief departure from our current subject-matter for a few suggestions prompted by cellulology. According to our last-named authority, "the primitive biogenic factor is the cell," and it is endowed with the power, first, of recreating itself and of perpetually reproducing of its kind, and only of its kind, and to each individual cell so reproduced the commission is given of a certain creative duty. So that, taking a cell as an unit, if it be designed for the creation and deposit of the primitive elements from which bone is subsequently to be made, for example, then the osteoblast, or bone-bud, will be inexorably projected from it. The same biogenic process obtains as regards muscle, and so on through the whole category of the living structures that unite to form a living being endowed with all the properties that shall distinguish it in

the vast realm of creation. We here feel an almost irresistible inclination, in this connection, to embark upon the wide sea of fascinating speculation known as "biogenesis," with its necessary adjunct of "spontaneous generation," etc. But a tug at our elbow separates pen and paper, and we are reminded of journalistic privilege and the restraining "thus far shalt thou go," etc.

Then, consistently with this interpretation of bioplastic matter in its beginning, we must accept the proposition that white nervous matter is biogenically endowed with the property of motility and of conveying motility to such structures as are also, *by their original construction and conformation*, capable of producing effective motion. But does not our reader feel with us that this is "a lame and impotent conclusion?" Are we any nearer to the solution of the original question, What makes a motor nerve motor? Let's be rash and hazard a conjecture. Is a motor nerve motor because of some peculiar molecular apposition or juxtaposition of the ultimate molecules of its construction as derived biogenically from its motor cell, or from the white cerebral and spinal substance from which it proceeds? If so, can this peculiar apposition or juxtaposition constitute it a generator or factor of the impulsive or propulsive agency of motility? Is there polarity here, and may we call it electric, electro-magnetic, galvanic, dynamic or psychic, and does this bring us any nearer to the solution of the intrinsic nature of this mysterious power? The manifest affinities which we see constantly between our corporeal sensibilities and the effects produced by the intromission of the electric current seem to show that it is a familiar guest, and one that we may hospitably entertain and make part and parcel of our corporeal economy. In fact the whole science of electro-therapeia has grown out of those manifest sympathies.

The idea of the electric agencies of the nervous system is "as old as the hills." Do we know anything better? Does anybody know, and if so let us have it? If this be the power resident in and making up the vital force of a common motor nerve, wherein does the nerve whose function it is to convey sensation differ from it? Again, and immeasurably higher still, whence proceeds the inestimable privilege bestowed by that nerve now under our special consideration, the auditory, and all other nerves of special sense? Of what is an ordinary nerve of sensation composed? The books tell us that gray cerebral and spinal medullary matter enters largely into its composition, and they tell us, moreover, that here and there, as in a plexus, for example, that a sensory fibrilla will steal away, as it were, and insinuate itself into the sheath of its motor neighbor. Why? Is it to form a companionable fellowship and fraternity, thus imparting a more vivid power to be conjointly used for purposes of muscular contractility and motility? Then we must take the lesson taught us by anatomy, and conclude that it is sent there because it possesses and carries with it a subtle force which is lacking in the grosser power, the motor, and which is essential to a more complete performance of motor duty.

Again are we brought face to face with the question, What makes a sensory nerve sensory? and again we are told that it is because a sensory nerve is made up of gray matter. Well and good, so far as that goes, *but what makes gray matter sensory?* Anatomy shows us that all through the nervous system the gray matter is in preponderating excess of the white, and, therefore, we must conclude that its functional properties must also be largely in excess. Especially is this preponderance observable in the brain, its convolutions, its ganglia, etc. That being so, then the universal acceptance of the brain as the generator and factor of the mind and all the mental faculties, to which may be added all the impulses, moral and immoral, emotional and psychic, the powers of the special senses, and by continuity the functional activities of the great sympathetic, with its innumerable host of sympathies and associations, all must be due to the intensely vital and subtle powers, properties and influences of gray matter. When we consider that it is to the vital forces, and their operations within us, of this gray matter, and to its agents of transmission, the sensory nerves and their intimate associations with the motor, ganglionic and sympathetic agencies that we are indebted for all the mental, moral and emotional faculties we possess, and also for the continuation and perpetual repetition of all the organic functional operations of our animal existence, we must feel that there are delicate tendrils within us, and of an exquisite sensibility, and that they dispense good or evil to our mental, physical and moral being, as we nurture them with tender care or wound them by pernicious, unholy and unwholesome habits and practices! But even yet our inquiry, What makes gray matter sensory? is not answered. Our reader will remember that, in discussing the cortex of the brain and its intimate elementary structure, we were led on, and, as it were, compelled to accept it as the sole and efficient factor and generator of all the mental powers and faculties resident in and emanating from the brain. Then the structure of the cortex in all its details was passed in review and subjected to critical investigation. What, then, did we do? We appealed to microscopic authority, and we learned that the physical structure of the cortex was made up of cells in every variety of form, size, etc., communicating ultimately with each other and transmitting the products of their generative powers by corona radiata, association fibers and other innumerable avenues of communication ef-

ferently, and receiving in turn through the same all impressions tending afferently and brainward. We have seen, too, that gray matter was the constituent of these cells of the higher order. Gray matter in the layers of the retina, in the olfactory fibrillæ, and we shall see it abundantly in the auditory fibrillæ, hidden away in the galleries and recesses of the cochlea, semi-circular canals and the secret places of the labyrinth of the internal ear.

So then, we reach at last, the ultimate element, generative of mentality and all the other wondrous qualities of those powers within us that we call mind, intellect, etc., and what do we find, a little insignificant molecule of gray nervous matter, the initial element of the biogenesis of what is to form the great nervous system of the body. And so we reckon of the biogenic beginnings of all the other elements that in their integrity and entirety constitute the living and breathing Homo, the man made in the image of his creator. A dreadful leveler is the microscope, and when it shows us *that one initial fact of our beginning—the spermatozoon*—and by the light thrown by physiology upon the various and mysterious processes of generation, we reflect that we come into life, as it were, a wriggling, squirming animalcule, an introduction upon the stage of life, not very flattering to our proud and self-assertive manhood, well may we echo the thought of the inspired Psalmist, "What is man, that Thou art mindful of him, or the son of man, that Thou visitest him?" The immortal bard, to whom we turn so often for the words of wisdom that embrace the world itself, thus shows the nakedness and emptiness of the fleeting things of time and man's infirmities.

> "Great Cæsar dead and turned to clay
> Might stop a hole to keep the wind away."

But there is another and a more worthy and ennobling view to take of these small beginnings. Our reader will recall that in the June number of this journal, we went back among the records of the past and viewed the atomic beginnings of the formation of the world evolved from now old and antique philologic and philosophic thought. Did we not find an infinitessimal molecule or atom whirling in indefinite space and aggregating with its fellow to crystallize into the wonders of cosmogenic solidarity? Did we not see a world growing out of the invisible and microscopic beginnings of infinitessimality. And so we may draw a parallel between the formation of a world and the operations of the infinitessimal forces from which a human organism is evolved, and by which the human organism is perfected. Then to our oft-repeated question. Why a motor nerve is motor, a sensory nerve is sensory, and why the nerves of special sense are possessed of their peculiar and specific properties of swelling, seeing, hearing, etc., we can only answer that the same agent—the proto-bioplastic cell—that originated them singly and individually, gave to each the power thereafter to be exercised, whether motor, sensory or special sense, and that according to their uses in the economy of the body, so were they endowed with the power to perform these functional offices, and none other. The old saying that one "can not make a silk purse out of a sow's ear" finds an illustration in cell-force and cell-growth. No cell of the cortex of the brain can possibly generate bone, and, *vice versa*, no osteoblast can possibly evolve thought, or be productive of a moral or emotional impulse. In like manner, the most alluring and intoxicating fragrance exhaled from Nature's Flora, or compounded by the chemist's art will fall unheeded upon olfactory cells and nerve-fibrillæ scattered through a catarrhal schneiderian membrane. To retinal cells, blighted by amaurosis, light brings no objects of beauty from without to be painted by them upon the tablets of the brain, for they are wrapped in a darkness so impenetrable that no luminous ray can re-awaken their lost vitality. In the "poet's corner" of historic Westminster, now moulders the hand that wrote:

> "Oh! for the touch of a vanished hand
> The sound of a voice that is still."

To the deaf ear "the sound of a voice," though it be a living voice, and however dear, and all "concord of sweet sounds," must always remain but a memory and a regret.

ANATOMY OF THE EAR.

The next step in our investigation of the auditory nervous matter leads us naturally to the consideration of the physical nature of the instrument by whose agency the function of hearing is effected, and the power to hear bestowed. In this we pursue the same course as in the case of vision, and it will be remembered that before we could reach the true instrument of vision—the retina—it was necessary to inquire into the anatomy of the globe of the eye as far as seemed sufficient to explain its reception of the rays of light, and their transmission to the sensory surfaces of the retina. Of course, it is neither expedient nor consistent with our present purpose to examine the minute and complicated structure of the organ of hearing—for it is both very minute and very complicated, as shown by the critical researches of modern anatomy. We propose, however, to consider, and with some minuteness, too, such portions of this very delicate and interesting auditory apparatus as may enable us to study understandingly, the part played by each portion of it in completing and perfecting the function of hearing. At this point it might be appropriate to say a few words respecting the character of the agent by whose physical operation hearing is produced, in other words, the "Physics of Sound." This, however, had better be de-

ferred until we shall have passed in review the structures of such of the material organs of the ear as are intimately concerned in the transmission of sound, and so can follow the effects of sonorous vibrations upon the directly receptive and appropriative organs of audition, the fibrillæ of the auditory nerve. We will dismiss the anatomy of the external ear with the expression of its admirable fitness to collect the waves of sound and gather them into the meatus auditorius externus, and compel them to impinge upon the external surface of the membrana tympani. The undulatory oscillation of the waves of sound, and their impaction upon the drum of the ear, is the initial act of audition. The internal surface of this membrane looks into a cavity—the cavity of the tympanum—which is constantly filled with air by its communications with the mastoid cells and with the pharynx by the Eustachian tube. In this way the membrane of the drum is permitted to move freely, and be impressed by sonorous undulations. Not only is this motility necessary for the purpose named, but that the membrane may be made tense or relaxed, according to the necessities of tension or relaxation to receive the different qualities of sound. A subtle nerve-force is the instrument regulating this alternate tension and relaxation, and will be subjected to inquiry later on. Our next step must be to review, as briefly as possible, the objects occupying the cavity of the tympanum. Of course, the ossicles of the ear—malleus, incus, osorbiculare and stapes—need only be mentioned to the reader, and their mode of association with the inner surface of the drum by the insertion between its layers of the manubrium of the malleus, their connection with each other, and by stretching across the cavity with the central portion of the labyrinth, its vestibule.

An oval opening or window, the fenestra ovalis, closed by a membrane, the membrana ovalis vestibuli, and in which the base of the stapes is embedded, completes the arch—so that by this pons ossicularis, or bony bridge, an unbroken chain is maintained between the external membrane or drum of the outer ear and that of the labyrinth or inner ear. Hence every sonorous impression made upon the membrane from without is immediately and directly conveyed to the labyrinth and to the auditory fibrillæ distributed within its halls, its galleries and its recesses. This ossicular bridge is constantly subject to vibratory impulses, and its individual ossicles are obedient to and controlled by certain delicate muscles. To these muscles and their action, and to the nerve forces upon which they are dependent for their motility, we must ask a somewhat indulgent consideration from the reader. As respects the muscles moving the ossicles of the ear, the pons ossicularis and the external and internal membranes, the books describe four, viz.: The tensor tympani, two laxators, major and minor, and the stapedius. By modern anatomists the laxators are now regarded as ligamentous in their structure. So there remain but the two, the tensor tympani and stapedius, to be considered in their influence upon audition. The tensor tympani, as its name imparts, and by reason of its direct connection with the membrana tympani through its attachment to the handle of the malleus, which, as we have seen, is embedded in the membrana by its action, draws the drum inward, and thus increases its tension. The effect of the stapedius is to depress the base of the stapes, and so by compression of the membrane of the fenestra ovalis produce pressure upon the contents of the vestibule. In this way sonorous undulations are transmitted to the auditory fibrillæ and their effects will be considered when we shall have entered the labyrinth.

But we have something to say about several remarkable and significant nervous associations in the cavity of the tympanum, of which the books tell us nothing beyond the fact of their existence.

Our reader will remember that we are trying to find out whatever we can about this "Nervous Matter" and what it is and does, and more than we can find in the books. So that, in the course of our journey through nerve-land, whenever we come across a nerve, at once we are curious to know what it's there for and what its business is. Of one thing we may be sure, that wherever a nerve is, it has business to do, and it's our business to find out what that business is, if we can. There is a little complexity here in this tympanic nervous combination, and we hope our reader will be as patient as possible while we try to unravel it. First, what nerves supply the muscles acting upon the membranes in the way we have designated, what is their organic nature, where do they come from and what associations do they maintain? In making these inquiries we are only continuing to follow the course we marked out and have pursued from the beginning. Did we not trace olfactory impressions from the tip of the nose onward and downward through every organ in the body? Did we not mark the effects of cerebro-retinal impulses until we came to a pregnant uterus busily engaged in building up a human being and providing it with all the beginnings of powers and faculties that would adorn its maturity? What did we see? We saw the maternal eye fall upon a loathsome object, and like the lightning's flash, the cerebro-retinal influences sped along the countless avenues of cerebro-cortical cell-antennæ, of corona radiata, of association fibers, of sympathetic ganglia and the indissoluble links in the great ganglionic chain, vibrating with the vitality of gray nervous matter and substantia gelatinosa. What then? Nature, unimpeded—by this term we mean the

bioplastic, ganglionic and biogenetic forces of the natural body—was working out the comely proportions of a human soul in a human body. They were steadily growing under her deft and skillful fingers, and now she is rudely pushed aside, and all her beautiful and graceful lines and lineaments and colors begin to be marred and defaced and degraded until a monster is spewed forth. We have used this illustration before, and repeat it here, because of its vivid signification of the subtle and wonderful powers of ganglionic nerve-force, and because to us no other illustration we can use will convey so adequate a conception of the mighty power of cerebral, ganglionic and nerve-force in controlling and determining the creation and permanent integrity of the organic structures of the body.

So, then, we've work to do here, too, among the nerves and ganglia in this auditory business. There's a mystery about the effects that sonorous undulations often make up within us, and make us thrill from head to foot. There's a reason why we flush and pale under the spell of an eloquent tongue. There's a cause why we tremble and grow faint, why the tears start and run over and course down the agitated face when the enchantment of sweet music is upon us and holds us passive in its embrace. The finger of the Great Creator has implanted these sympathies within us, and these tiny nerve-tendrils are the harmonious chords that are responsive to the touch of that finger. No man better knows this than he that "hath music in his soul." When such grateful undulations of sound as these knock at the outer door of the ear, cross the bony bridge, and enter and pass within the inner penetralia to the home of hearing, there is much more than the mere auditory sense that is awakened. Many other influences and emotions now agitate us, until every part of our corporate body confesses to the potency of the mysterious power, and there's nothing left us but submission. Whence comes it? We shall see. In the cavity of the tympanum there is a very curious convention, so to speak, of nerves coming from various points, and we have already suggested the following questions to be answered concerning them, viz.: What nerves supply the parts within the cavity of the tympanum? What is their organic nature? Whence do they come? What associations do they maintain? Let our next duty be to solve the problem of these associations, and their influences in health and disease, if we can.

Mouthwash for Carious Teeth.—A mouthwash said to prevent dental caries is as follows (*Bull. de Thérapeut.*, 1891, CXX., p. viii.): Tannin, 5 grams; tincture of iodine and tincture of myrrh, of each 2.5 grams; potassium iodide, 1 gram; rose water, 180 grams. The mouth is rinsed every morning with one teaspoonful to a glass of warm water.

NEURASTHENIA.

BY D. A. GORTON, M. D., BROOKLYN, N. Y.

THE malady which has come to be known as neurasthenia—a term not coined, but aptly made up from two appropriate Greek words, with the signification of nerve-weakness—is one of the most common and the most distressing chronic maladies with which the profession has to deal, and perhaps the least understood. It is a weakness—not to use a stronger term—which is identified with civilization, most prevalent in America, and confined mainly to the upper classes, and among these to those who think too much and who think too little. The working classes, or more precisely, the classes who live by physical or manual labor—who dig and delve, toil and sweat that others may luxuriate and enjoy—are least affected by it. This exemption from a grave affection is one of their compensations.

The malady is not confined to sex. It is as frequent among men as women. Prof. Osler, of John Hopkins University, in his fine work on "Mental and Nervous Diseases," says it is more frequent in men than women. Nervous prostration, one of the synonyms of neurasthenia, is too common among both sexes. It is heard on every hand, and has become so common that it excites but a passing interest among laymen. Members of the medical profession are unhappily not exempt from it. But the malady is more frequent among the clergy, still more frequent among statesmen and politicians, more frequent still among scholars and literary and business men and women. We often hear of clergymen swooning in their pulpits; lawyers and politicians breaking down in their arguments and speeches; students losing the drift of their studies; scholars and men of science being forced to intermit their labors and researches; bankers, brokers and merchants obliged to retire from their desks and counters for rest and rejuvenation, having become disabled from making combinations (against their fellows), keeping the thread of things or the run of their accounts. And this is the meaning of it: Their centers of thinking and feeling have become exhausted by reason of wear and tear, indulgence in positive vices, and unreason and imprudence in the use of their faculties.

What, then, is neurasthenia? The late Dr. George M. Beard, the author of the term, and who made an elaborate study of the malady* both by personal observation and converse with the opinions and observations of others, insists that it is exhaustion and innutrition of the brain and nervous system. He rejects, with good reason, the earlier theories of anæmia and hyper-

* "A Practical Treatise on Nervous Exhaustion, its Symptoms, Nature, Sequences and Treatment." Edited, with notes and additions, by A. D. Rockwell, A. M., M. D. New York: E. B. Treat.

æmia as causes of this form of malady, and in fact as causes of any form of malady, and, with Erb and Stümphill, of Germany, maintains, and rightly we think, that the cause of causes of the phenomena of neurasthenia is to be found in the impoverishment and exhaustion of the brain and nervous centers. It is, therefore, malnutrition of the nerve-centers, and its symptoms are as various as are the nerve-centers, which have become implicated by the affection. According to this view, there may be many forms of the malady, each having distinct and well-marked symptoms —as cerebral neurasthenia, or cerebrasthenia, involving the memory, intellection and emotion; spinal neurasthenia, or myelasthenia, involving and disturbing the functions of the spinal cord, etc. The propriety, however, of extending the term neurasthenia to embrace derangements of spinal centers of every part of the nervous system may be questioned. For our purpose, it is sufficient to limit the term neurasthenia to disorders of the brain and sympathetic system.

What are the symptoms of neurasthenia? As one would naturally suppose, the symptoms of nervous exhaustion, involving, as it does, the functions of the mental life of an individual, are polyform. The malady involves the substratum of being and destroys normal thought and feeling. The victim of the malady suffers from debility of all his powers, physical and psychical. He is wanting in courage, and is beset with fears, unfounded and irrational. His power of attention is impaired; his memory is defective. He can not apply his mind to anything long at a time. What he reads to-day he forgets to-morrow. He loses his interest in men and things; is often morose and irritable; easily vexed and annoyed; often suspicious and super-sensitive; suffers from hypochondria, gloom, despair, hopelessness. He has disgust of life and living, yet fears death and dying.

The fears and apprehensions from which the neurasthenic suffer form a most distressing catalogue of symptoms, and imply a psychical paralysis far more serious than physical paralysis, could that condition exist without involving the brain. One in the normal mental state loves to take responsibility, to assume risks, to undertake the difficult, to brave danger and to apply himself to tasks which tax energy and skill to the utmost. It is the reverse of this with the neurasthenic. Besides, he is tormented with imaginary woes. He fears to be alone (*monophobia*), and yet dreads society (*anthropophobia*); fears a crowd or confined places, as a church or theater (*claustophobia*); fears disease (*pathophobia*); in brief, fears everything (*pantophobia*) that may tax his powers or compel the use of his faculties.

Moreover, he is possessed by morbid fancies and imaginations, and lives over troubles that never come to him. Every pain is an admonition of some seeming disorder. A mere scratch is going to ultimate in blood poison; a pain in a joint is an onset of rheumatism. Pain in the chest or head is premonitory of pneumonia or brain fever; if in the mammæ, she is going to have cancer; in the stomach or bowels, gastritis or peritonitis. He will not drive or ride for fear of an accident, nor cross a bridge or ferry, nor ride in the cars for the same reason. While these fears seem foolish to him, he can not put them away or rise above them; the attempt to brave them induces serious sufferings, such as terror, palpitation of the heart or actual heart-failure. The neurasthenic often retain the incentive to work, and their interest in life and the things which go on in life, the power to think and carry on abstruse intellectual processes, the love of literature and art, of the beautiful, etc.; but the indulgence in these things is soon followed by distressing symptoms of exhaustion. Their mental powers, like their physical, are easily overtaxed and followed with discouragement and despair, sometimes with morbid impulses as well as morbid fancies, an impulse to do desperate deeds, as homicide, suicide, destroy property, run away, etc. A patient of mine who was neurasthenic could scarcely restrain herself from throwing her baby out of the window or jumping from the window herself, and indulging in various nervous antics of less moment after doing a little literary work. For this reason she begged not to be left alone lest she might do some desperate deed.

The physical symptoms are less strongly marked in the neurasthenic and inflict less suffering, but are exceedingly inconvenient. There are frequently wandering pains in the back, loins and extremities, also in the back of head; explosive noises in the head; sharp, stinging pains in the eyeballs; defective vision, astigmatism and other structural defects of the eyes; deafness; confusion in the head and vertigo; preternaturally slow, or frequent or intermittent pulse; swishing noises in the head synchronous with the heart-beat, aggravated by exercise, emotional excitement, lying down, by wind in the stomach or bowels or other forms of indigestion. The vaso-motor circulation is impaired. The patient has cold hands and feet; finds it difficult to keep warm, even in summer; suffers from hot flashes and unbalanced circulation, etc. In many of these cases there are physical weakness, sudden loss of strength in the arms and legs, with tremors; impairment of speech or total loss of voice. Dr. Beard used to insist that he could distinguish the neurasthenic by the voice alone, so characteristic is it in that malady.

Dyspeptic symptoms are most pronounced in these cases. The victim often complains of oppression at the epigastrium, sensation of tightness as of a band around the body at the hypogastrium, and heaviness and weight as if a paving

stone were in the stomach, wind and oppillations in the stomach and bowels and constipation. Usually the appetite is good, with a tendency to overeat, yet he fears to indulge his appetite lest by so doing the gastric symptoms should be aggravated. These patients are apt to be finicky with their diet and to imagine that they can not eat this or that.

What are the causes of neurasthenia? Whatever impairs or exhausts the tone of the central nervous system is the direct, efficient cause of that malady. Every observant physician of wide experience knows what they are. Chief among these things are idleness and dissipation, by which we mean want of wholesome employment and over-indulgence of the desires and appetites. Another cause of less prominence is prolonged mental work, that is, taxing the brain beyond its powers, with neglect of rest. We lay less stress on this cause of the malady, because we are confident that no amount of mental labor, in and of itself, would ever cause the disease. If a man works his mind like Scott or Newton, year after year, night and day, without break or let up, regardless of the conditions which Nature and common sense impose, it should be no surprise when that mind, like Scott's and Newton's, goes down in darkness. Brain and mind are one, and subject to the laws and conditions of organic life. They are not machines capable of perpetual motion regardless of conditions which supply force-forming energy. Let one use his brain with all his might, with appropriate intermissions for sleep and nutrition, and he will find it the strongest and most enduring organ of his body. Should he use it inordinately, continuously, disregarding these conditions, he will find it still the strongest and most enduring organ of his body, but that it has its limitations, like all things mortal, and sooner or later it will fail him, and not only fail him, but leave him a poor, miserable neurasthenic, to whom life is not worth living. Moreover, if one digs and delves inordinately on one line of thought, using for that purpose but a part—a small part—of his brain, one should not be surprised if it give out or utterly break down, and he become a victim of mental disability and a prey to all the vagaries which haunt an enfeebled or an anæmic mind.

The worries and anxieties incident to civilization and the fierce struggle to get on—to attain to place and power—in America are most prolific causes of neurasthenia. In such a strife as exists in American civilization to-day it is not the fittest that survives, but rather the hardiest. Those less able to bear the strain and stress required of them faint by the way, and not a few of them with wrecked nervous systems. Even many of those who succeed, as success goes, and attain their ends, do so at the expense of body and mind. They may have reached the haven of their ambition, but, like a ship that enters port, having had to tear out and consume its insides for force to get there, they are poor, miserable, hulks of humanity, barely able to maintain a semblance of life and living. These are the ones that furnish many recruits for the ranks of the neurasthenic.

Many causes of neurasthenia may be found in the ordinary exigencies of life, such as excess of cares, watching over the sick, the racking griefs that come through bereavement and disappointment, the loss of friends, of prosperity, of position, the humiliation of defeat, the shame of sin, the remorse of conscience—these singly or in combination, all tend to depress the bodily powers, interrupt nutrition and force-supply, and impair the stamina of the nervous system.

What is the prognosis in neurasthenia? It is idle to dwell on the prognosis of nervous exhaustion, because every case should be judged by itself. In general, the prognosis is hopeful. Like other cases of malady, some are amenable to treatment, and others are not. Disorders of the nervous system are slower to recover from than any other class of disorders. They involve the citadel, the center of force and power, and deprive the organism, therefore, of the ability to appropriate nutrition by centers which are most impoverished and which need it most. This is the reason why convalescence in these cases is so slow and tedious. They require patience and perseverance on the part of both doctor and patient. A speedy cure should not be expected.

What are the indications for treatment of neurasthenia? Many and varied are the remedies and measures of treatment of nervous exhaustion. Among the more rational of these measures are rest, diversion and nutrition. We do not mean by rest, idleness. Change the occupation and bring into use new factors of the mind. Let the jaded or worn-out functions rest. Prof. Starr, in his excellent work on "Familiar forms of Nervous Diseases," rightly observes that "mental rest is not secured by an absence of mental activity, but by directing the mind into new channels and calling into play new departments of the organism, thus incidentally leaving those previously acting and now exhausted to recuperate. This is the secret of the success of travel, diversion and novel employment in the treatment of neurasthenia."*

There is a technique of rest, in absolute repose, which should be urged upon the neurasthenic. This consists of relaxing the muscular system absolutely after taking exercise, or making any exertion. This can only be done by taking the prone position. The relief which is thus secured from muscular tension affords the system the condition needed for the more perfect diffusion and circulation of the blood. In other words, it

* "Familiar Forms of Nervous Diseases," p. 287, by M. Allen Starr, M. D., Ph. D., New York: Wm. Wood and Company.

affords nature the help to do of herself just what massage and electricity are intended to do for her—only more effectively.

In cases where the lower physique is not involved, the diversion of travel may be advised. Many cases, however, can not bear the fatigue of travel and sight-seeing. The slightest exertion prostrates them. To them, repose and quietude are indispensable. These need diversion—the diversion of light amusements, games of various kinds, anything to occupy the mind without taxing it. Dr. Beard observes that he never recommends change of employment for the neurasthenic. I had a patient on one occasion who could not look at a column of figures without swooning. He had been for many years treasurer of a large firm, paying out millions a year. Would Dr. Beard have kept him at work on his check-book? Would he have kept the literary man who had written himself into melancholia at his books? This course would be absurd. Change of employment is imperative in these cases where an employment has been pushed to inordinate length, or when it is of a character that brings into use a single faculty or group of faculties. Continuance in such use would aggravate the malady.

There are remedies which sustain important specific relations to this malady, some of which we have noted further on, but they are all secondary in importance to rest, change of employment and nutrition. Insist on rest and diversion to the worn-out victim, that the poverished nerve-centers may have every possible aid to recovery, and see to it that appropriate and easily digestible food be supplied in ample abundance.

Change of air and scene is most beneficial. In general, the mountains and the bracing air of the north are to be preferred to the seashore or warm latitudes. We can not agree with Clouston that the natural cure of neurasthenia in America would seem to be a "change to a more sleepy climate."* We quite agree with Clouston, however, in discrediting the use of massage in these cases. He thinks massage for the cure of neurasthenia, "the most irrational that was ever conceived by the medical mind."†

We have employed massage in many cases of the disease under observation, but always with disappointment. Electricity meets the indications far better, but is useful only as auxillary treatment. Dr. Beard and his editor, Dr. Rockwell, lay great stress on both of these measures. If there be any curative virtue in either of them, we have failed to discover it. We relegate them to that class of measures, the chief effect of which is to amuse and entertain the sick, while Nature works the miracle of cure.

We can not, in a paper like this, review all the drug-remedies which have come into prominence of late for the treatment of the various forms of neurasthenia. But we can not forbear to express our condemnation of the use of hypnotics. They are at best, expedients which serve a temporary purpose, but leave the patient worse off than before. Many of them, such as opium and the bromides, are positively injurious, aggravating the hyperæmic condition which they are wrongly given to relieve. I can not do better on this subject than to quote the words of Dr. M. Allen Starr, Professor of Diseases of the Mind and Nervous System, College of Physicians and Surgeons, New York, in his excellent work on "Diseases of the Nervous System," before quoted. He says: "Bromides, chloral, hyoscyamus, antipyrine, phenacetine and sulphonal will produce a temporary relief in many cases of neurasthenia. But while this fact is admitted, I do not hesitate to say that I discountenance their use. It is like quieting the fear and hallucinations of one in delirium tremens by giving him more alcohol, to give bromides to a neurasthenic. The last state of that man is worse than the first. There are cases of delirium tremens where heart failure threatens life and whiskey must be used with the food which combats the state of starvation present. So there are cases of extreme nervous irritation and anxiety with sleeplessness, in which, phenacetine, sulphonal and the other drugs mentioned are necessary, while other means are being employed. Such cases are the exception. The best medicinal treatment in neurasthenia is one directed to building up the nervous system, and to combating the irritable nervous weakness by giving strength rather than by suppressing irritation."*

Among the remedies the more serviceable in the hands of the New School, are arsenite potash, ergot, phosphorus, phosphoric acid, strychnia, scutillaria lateriflora, cóffea, pulsatilla, sepia, phenacetine, etc. Neurasthenic cases, like other cases, should be individualized. There are no two cases exactly alike, and treatment that would be good for one case would be bad for another. The indications in the selection of remedies should be closely studied and scrupulously followed. This procedure comprehends a knowledge of the specific and physiological effects of drugs on the normal human system, without which, one is all at sea in therapeutics, like an empiric, rudderless, drifting helplessly, or floundering absolutely.

While it does not come within the scope of this paper to give an analysis of the remedies having a specific bearing or relation to neurasthenia, since it may be found in their pathogeneses, for the most part, which are accessible to all, we can not forbear to call attention to the specific value of the arsenite of potash and its wide usefulness in such cases. It certainly possesses, in appreciative doses, sustaining or building powers or properties in cases of nerve impoverishment.

* "Mental Diseases," p. 63. † Ibid.

* "Familiar Forms of Nervous Diseases," p. 289.

Another drug of almost equal value is phosphorus—it is of more value in cases with weak or irritable heart centers. We find appreciative doses of the drug more effective than the attenuations, that is, doses of one-hundredth grain. Digitalis and phenacetine are likewise useful in neurasthenia, the former in irritable hearts, the latter in cerebro-spinal pains from which these cases suffer so much. We prescribe them as anxillary remedies in one minim and one grain doses, repeating as occasion requires, or as the exigency of the case requires. Still another drug, but little used or known, we should not fail briefly to notice in this connection, namely, scutillaria lateriflora. It is of great service in quieting and comforting paroxysms of nervous exhaustion accompanied with fear, which frequently attack the neurasthenic—various fears—fear of some sudden onset of malady, of death, of going mad, of going into convulsions, etc., attended with great physical weakness and mental depression. We use it in one minim doses of the fluid extract, repeating often, as exigencies may require.

In conclusion, we give herewith two illustrative cases in brief detail, in which scutillaria lateriflora was the central remedy in one case, and phosphorus in that of the other:

Case A is a woman nearing the climacteric, of great refinement and susceptibility. She had become greatly exhausted by maternity and excess of maternal cares, though she had always been delicate. The symptoms most marked in her case were an overwhelming sense of some impending disaster, dread of being left alone, fear of losing her reason and of sudden death. At night, after a few hours of sleep, she would awake, generally about two A. M., with coldness in the thighs, tremor in the bowels, great weakness and possessed of uncontrollable fear — a wholly unfounded and imaginary apprehension which she was powerless to reason away. There would be pressure on the head, and a sensation as if the head were bound by a band, confusion of ideas and disposition to tears. These attacks were attended by a small, infrequent pulse, with faintness almost to syncope, necessitating the use of stimulants. The patient could not bear mental excitement, either of pleasure or pain. She could not walk—her limbs gave out—nor could she cross the ferry, ride in the cars or drive in a carriage without danger of precipitating an attack such as I have described, so strong was the fear that possessed her of some impending disaster.

Moreover, she was tormented with imaginary woes. If she had pain in the chest, she was possessed with the idea of pneumonia; if the pain was in the mammæ, it was premonitory of cancer; if in the bowels, of peritonitis or typhoid fever; if in the head, she was going to have brain fever or become mad. And while she could usually be reasoned out of these fears, still, when alone, they returned upon her again and again. Hence, she could not be left alone without being afflicted with great mental suffering. Meanwhile her appetite was good, and all the functions of the digestive organs were regular. Her physiognomy, too, was that of a healthy woman.*

In this case scutillaria lateriflora, in one minim doses of the fluid extract, has proved an efficient aid to convalescence. It is her resource whenever the distressing symptoms return upon her.

Case B is that of a maiden lady, age forty, of nervous, sensitive temperament, with a strong bias toward intellectual and literary pursuits, in following which, together with sorrow, business anxieties and embarrassments, she broke down. I may best give an idea of her case in her own lucid language.

She writes: "The first idea I had that anything was wrong with me was an impulse, which was almost uncontrollable, to throw myself out of my study window. That symptom came upon me during a week of most intense heat, when there was no sleep to be had by reason of it night or day. And what was most peculiar about this impulse, it was in connection with a particular window. I tried to put this impulse down by mental power, occupying a place near the window and sleeping by it, but without avail. I could not rid myself of the feeling until I left the city and sojourned awhile in the mountains. At a later period I began to have excruciating pain in the ball of my right eye. This pain was of a tearing, lancinating character, aggravated by twilight and ameliorated by bright light. This was soon followed with severe pains in the lumbar region, accompanied with difficulty in walking. My legs were inclined to be cold, and they felt like heavy weights. My nervous system did not seem to be involved at this stage of my weakness. The nervous breakdown came later, and was accompanied with extreme dyspeptic symptoms and sufferings and utter prostration of body and mind. I was haunted with vagaries. I could not shut my eyes without the appearance of horrid fancies, such as floating objects of brilliant coloring, all sizes and shapes, dismembered bodies, heads, hands and arms, children, unpleasant faces, specters, old hags, demons. On one occasion I saw myself lying in a coffin. All these phenomena were accompanied with insomnia. They were aggravated at the monthly crisis, which, however, seemed quite normal.

"At this time I seemed to be able to look into the interior of my head and to see one-half of my brain—the left hemisphere. It appeared like an oblong box with partitions in it, quite empty. I could feel the blood rush into these spaces and as quickly recede, with a feeling as if I might lose

* From the author's clinical paper in MEDICAL TIMES for September, 1892.

consciousness. The pain in my eye was constant and most tormenting. Nothing relieved it, though I took in succession all the hypnotics known to the profession. One exception I should make to this statement, however. A certain preparation of camphor and opium sometimes mitigated the pain somewhat. Later I began to be possessed of fears—fear of being poisoned, of impending disaster, of contracting disease, of being alone, lest I might do myself bodily harm. I imagined I was going to have lockjaw; that I had heart disease, or should have cancer, etc. All this time I was incapacitated from reading, though I could endure being read to, writing or conversing, walking, riding or driving, and had to keep the prone position. The least exertion caused palpitation and a feeble, frequent pulse, which I could count in my head when lying down. Insomnia was most persistent. My nights were made terrible by hallucinations, grotesque and absurd fancies, and I rejoiced when morning came and I could hear the family moving about."

At this stage of the case the patient put herself under New School treatment. I found her suffering from cerebral and spinal anæmia. Her pulse was small, easily excited; the extremities were inclined to be cold, the face and head hot, with flashes of heat and perspiration coming and going with every change of emotion. She complained of pain in the back of her head, down the spine, in the eye often excruciating, under the left nipple and over the ovarian and uterine region and across the small of the back. There was retroversion of the womb, with slight cervicitis, and often a troublesome nausea, with indifferent appetite, which had to be nursed, and great general prostration.

Various were the remedies which were given in this case to meet and combat sufferings as they arose, and finally phosphorus, in rather crude form, one-hundredth of a grain, at variable intervals, was prescribed, with results that justified its continuance. Under the influence of this medicament, together with appropriate hygiene, the patient slowly regained her powers. Change to the mountains followed, with excellent effect.

In concluding my observations on this grave affection, I can not forbear to speak in terms of condemnation of the practice of treating neurasthenia as an imaginary malady, or as a malady having no physical predicate, or that is unreal and fanciful. It is a malady which always involves the nerve-centers, the sources of power, thought, will, feeling, and has a cause, therefore, in substance and being, and is as real as gout or madness. The ignorant and unthinking are apt to make levity of its foibles and fancies and its varying ups and downs. It is inconceivable to them that one who is really ill should be apparently so bright and cheery one hour and so utterly sad and broken the next, for which reason the sympathy and consideration which are given to the victims of other diseases of much less moment, are withheld to those of this disease. So marked, often, is this want of sympathy on the part of friends and occasionally on the part of members of the profession toward the neurasthenic, so inconsiderate, often, is their treatment of them, that it amounts to more than a cruelty, it is not unfrequently a barbarism. It is a dreadful affliction to an active man or woman, or an ambitious man or woman, to become a victim of nervous exhaustion, but the affliction is made doubly dreadful when to the tortures of the malady are added the cruel reproaches of relatives and friends by an intimation that they could put away their suffering, or rise out of them if they only would. Let no one bearing the insignia of medicine make so grave a mistake or so cruel an imputation, but always remember that those suffering from neurasthenia deserve our most faithful, patient care, and our warmest, tenderest sympathy.

WILLS.—A VERDICT FOR SLANDER.

By David A. Storer,
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THE making of wills is such a common occurrence at the present day that few would stop to consider whether or not the custom ever had a beginning. Let us look a little into its history.

Among the ancient Germans wills were unknown. This is equally true of the highly civilized Athenians, until the age of Solon. But as civilization advanced and wealth accumulated, the general interests of society seemed to demand for every man the free enjoyment and final disposition of his own property as a reward of industry and economy. By the laws of Solon, the Athenians were allowed to devise their estates provided they had no legitimate children, *i. e.*, if they were mentally competent and not under personal disability. Restrictions which have existed ever since. If they had legitimate children the power of devise was qualified; if their sons died under sixteen years of age the devise was allowed, and in the case of daughters with the condition that the devisees should take them in marriage. We read of similar testamentary arrangements in later years which are not always acquiesced in by the daughters!

In Rome, the order of succession could not be broken into by will unless the act was done and permitted in the assembly of the people. By the twelve tables, wills were permited at first to an unlimited extent, but afterward qualified by the interpretation and authority of the tribunals. Much ceremony attended the execution of these wills—five citizens representing the people, and the transaction was in the form of a purchase of

the inheritance. At last, by the laws of the prætors, they were required to be executed in the presence of seven witnesses who must affix both signatures and seals.

The Emperor Justinian modified the power of devise so that unless a fourth part of the inheritance was reserved for the children, they were allowed to set aside the will under the presumption of mental imbecility.

Among the Anglo-Saxons it seems that lands were devisable to a qualified extent. The *folk-land* was held independently and was devisable by will. But the Norman Conquest, resulting in the establishment of the feudal system, cut off such holdings and the power to devise them. The feudal doctrine of non-alienation without the consent of the lord, being inconsistent—nay, at utter variance therewith.

The English Statutes of Henry VIII. and Charles II. formed the bases of the laws of wills and were incorporated into our colonial jurisprudence. These have been modified by the various States of the Union, but with these modifications exist to-day as the laws governing wills in both the United States and Great Britain.

In a treatise of this nature the subject can be treated only in a general way, as space is lacking in which to set forth the varying requirements of the several States. So that a brief showing of the nature, utility and mode of execution, must suffice.

"A will or testament is the legal declaration of a person's intentions which he directs to be performed after his decease. The word will is more strictly applicable to an instrument for the disposition of real estate, although it is synonymously used with the word testament, which is properly applicable to an instrument for the disposition of personal estate." (Parsons on Wills, chap. 1.)

It frequently happens that persons delay giving instructions for their wills until physically unable to be troubled with the suggestions of their legal advisers. Hence arise ill-matured testamentary dispositions which lead to litigation and expense, and tending to endless dissatisfaction among the interested parties. That no document is more difficult to draw in a proper technical manner and free from ambiguities than a will, is evinced by the portion of time occupied by our judicial tribunals in their construction. And we have further proof in the successful contest of the wills of such learned men as the late Chancellor Kent and Samuel J. Tilden.

WHO MAY MAKE VALID WILLS?

Any person who is not under a legal disability may make a valid will, and these disabilities extend principally to infants, married women and lunatics. Even these disabilities are qualified by the statutes of the various States. The limits of non-age are fixed by law; and so, with married women—in some States she may make a will as freely as though a *feme sole* in others, the consent of the husband is necessary. And as to the last class—persons of unsound minds, unless the mental incapacity of the testator to make a will is shown by the objectors at probate to have actually existed at the precise time of the execution of the will, the will is good and will stand.

A case came under the notice of the writer in which a man over sixty years of age, who had, by virtue of a writ *de lunatico inquirendo*, been duly declared a lunatic and a guardian of his person and estate appointed years before, made a subsequent will, whereby a large portion of his estate had been diverted from his family and devised to a benevolent object. It was shown by the objectors to the probate of the will, that the testator was for years prior to the date of the will wholly unable to find his way home from the distance of a block away, that whenever he responded to the calls of nature, the same care of his person by others was necessary as for a young infant, and a general condition little short of imbecility was proved. And yet it was shown to the satisfaction of the court that the will was drawn and executed during a *lucid interval*, and it was accordingly admitted to probate.

WHAT MAY BE DISPOSED OF BY WILL.

Generally all estate, real and personal, of the testator, the right or title to which would enable him to convey it during his lifetime. To go into all the various estates recognized by the law, and which may pass by devise, would exceed the limits of a single article.

EXECUTION AND ATTESTATION.

All wills (except nuncupative) must be in writing, and signed at the end thereof by the testator or some other person by his direction or in his presence. Such signature must be made and acknowledged by the testator in the presence of two or more witnesses present at the same time, and such witnesses must attest and subscribe the will in the presence of each other and of the testator. It is required in many States—and can be amiss in none—that the witnesses write their residences opposite their signatures.

The attestation clause should be signed by all the witnesses, and set forth that the testator declared the instrument so signed to be his last will and testament, in the presence of each of the witnesses, and that they were present at the same time and signed their names as witnesses at the request of the testator, in his presence, and in the presence of each other.

The phraseology of the formal parts of a will is unimportant. Some read like a funeral sermon; others are almost flippant. A proper course can be steered between these extremes by

any one of ordinary intelligence. In considering the legal effect of the directory parts of the instrument, however, it is well to remember that if any portions of the estate are left unmentioned, the testator will be considered to have died intestate as to those portions, and the rule governing the distribution of intestates' estates will be followed as to them.

To avoid the misconstruction of a will, the testator's intentions should be set forth in clear legal phraseology, free from ambiguity; and where words capable of a double meaning or construction are used, they should be followed by some explanatory phrase, clearly pointing out the intended construction.

Names and descriptions of legatees should be definitely set forth, and in describing relations, where there is any doubt of their being legally such, they should be described as the reputed relations. It is advisable to state that the personal estate of the testator shall be the primary fund for the payment of debts; and in creating life estates only, care should be taken not to give a greater estate in the premises.

A will can not be too concise, provided the testator's intentions are fully expressed. It frequently occurs that superfluous clauses in a will are found to qualify the whole instrument, and interfere materially with its otherwise easy construction. The courts will use their utmost endeavors to arrive at the intentions of the testator; and where the words will bear two senses, one agreeable to and the other against law, that sense will be preferred which is most agreeable thereto. And if the will contain two clauses totally irreconcilable to each other, the first will be rejected and the latter will stand.

It often happens that, after a person has made his will, he wishes to make some alteration in it. He may, of course, make a new will; but there is no necessity, as his intentions may be carried into effect by a codicil. This is treated as a supplement to his will, and may contain anything he desires to add, or any explanation or revocation of the contents of the original will, or the appointment of additional or other executors or trustees.

In making such codicil, it should clearly refer to the former will and be executed and attested with all the forms and solemnities attending the execution of the will. There is no restriction as to the number of codicils a testator may make. It is therefore advisable for each codicil to refer to the preceding one, thus showing whether it is the first, second, third, etc. And in all cases, where it is possible, the codicils should be annexed to the will, to avoid any question of identity.

Wills should be left in the custody of the testator's family solicitor or deposited with a safe deposit company or other known place, so that upon the death of the testator the executors can be promptly notified and the frequent long search for a will avoided.

A VERDICT FOR SLANDER.

A Baltimore correspondent sends us a report of the recent trial for slander and libel, resulting in a verdict for $18,000, which was instituted by a surgeon of that city against several members of the "Maryland Homœopathic Society," from which he had been expelled.

The charge of malpractice was met by the voluntary testimony of the gynæcologist to Johns Hopkins Hospital, who testified from a sense of justice that the surgery in question was good and in accordance with scientific principles!

The judge in his charge stated that the defendants in this action had no right to try this plaintiff, invite newspaper reporters to be present and circulate copies of their report all over the country, to the great detriment of the accused.

It is said that when the jury retired all of them were in favor of a verdict for the plaintiff; ten wanted to give him $25,000 and one $100,000 damages! The case must have been clearly shown, or else twelve laymen would not have rendered such a verdict! Ordinarily laymen say, "When doctors disagree," etc., their quarrels have to be settled between themselves, if at all; but the result in this case ought to be a lesson to such as contemplate any such action!

This case brings to mind another which occurred in our very midst not long ago, in which groundless charges were made against a physician of the highest standing in the community by some medical politicians in the society to which they belonged!

The politicians, for the time being, had things their own way, and had they not lacked the courage would have lain themselves open to a suit at law, the same as the Maryland people did. It would seem that the injury which is sure to follow in these cases would deter men from such proceedings! In both of these instances the effect upon the societies has been most detrimental to their progress. Members became disgusted with the jealousy, bickerings and chicanery met with in the meetings, so that the best of them remained away and would prefer to resign but for the convenience of registration. Physicians claim that their code of ethics is based upon the golden rule, but from our standpoint it seems anything else in some instances.

Removal of Mother-Marks.—The *Allgemeine Medicinal Central Zeitung* gives the following as very efficacious: Mix one part of tartrate of antimony with four parts of emplastrum saponatum and work into a paste. Apply the mixture over the mark to be removed to the depth of one line (one-twelfth inch), and cover with a slip of gummed paper or court-plaster. On the fourth or fifth day suppuration sets in, and in a few days later scarcely a sign of the mark can be seen.

CARE OF THE FEET.

BY HUGH PATTON, B. A., M. D., C. M., MONTREAL.

ONE of the most important, yet least thought of considerations in the care of childhood is the proper development of the foot.

Knowing the extreme discomfort to themselves which the persistent wearing of the fashionable shoe entails, it is a matter of surprise that thinking women should willingly allow the delicately-formed, natural feet of their children to be dwarfed and crushed into a conical mass of protuberances. Yet this is the result of the pointed toe. I was called in last winter to relieve the pain of an ankle joint in a lady of high society in Montreal, whom I had frequently heard mention of as having a remarkably handsome and small foot. When the stocking and dainty shoe (which latter, by the way, was a fair resemblance to a wedge) were removed, I was amazed at the amount of deformity the foot had suffered. The great toe, instead of being two and one-half inches distant from the little one, almost touched at the terminal phalanges. As a result of this, the first metatarso-phalangeal joint protruded at a sharp angle, and the irritation of the shoe had produced a considerable deposit of calcareous matter in the tissues about the joint. The lady in question became easily tired on walking, and no wonder, for the foolish selection of footwear had destroyed the motility of the second most important joint of the foot. In addition to this disfigurement, the tight shoe had caused the nails to ingrow and corns to form on every prominent phalangeal joint.

The man who marries a society lady, looking for a model of physical perfection, must suffer a veritable iconoclasm.

In a considerable number of cases where I have performed minor operations to relieve the pain resultant from these deformities, a boot has been selected on the following plan: The sole is made three-quarters of an inch longer than the foot requires, and this unused portion sacrificed to the pointed toe required by fashion. The inner side of the boot is made so that the extremity of the great toe and the most prominent part of the heel are as nearly as possible in a straight line. The boot is made one-half inch less wide than the width of the foot firmly planted on the ground. This width is usually three and three-quarter to four inches. Toe-caps I avoid, as preventing the expansion of the leather necessary to suit the irregularities of the foot. The outer side is sloped to meet the natural shape of the foot. The toe of the boot is boxed to avoid injurious pressure on the nail, and the instep closely fitted to avoid the discomfort of the foot slipping forward.

It seems to me the duty of medical men to urge the utmost attention of parents to the care of their children's feet. A well-cared-for foot is a source of comfort and ease through life. In our cities where laymen take up the special care of the minor foot ailments, the surgeon and medical man generally, have few such conditions to treat. But the isolated practitioner has to deal with just such trifles. The college clinics have taught him little, his books scarcely more. Last winter a minister came to me from the country with the story that his local medical man was afraid to remove a crushed and in-growing toe nail for fear of fatal hemorrhage.

The little operation, which I have found most efficient, can be done in five minutes under cocaine, without the least pain. After a careful scrubbing of the foot and cleaning of the surrounding parts of the nail with bichloride, a ligature of thin rubber tubing is tied round the base of the toe, and a hypodermic of 30 to 40 minims of fresh four per cent. solution of cocaine injected around the nail bed. A few moments produces sufficient anæsthesia. Then a sharp director is worked under the nail on each side, leaving about three-quarter inch of nail in the center. Scissors, bent at an angle, cut in the groove made by the director, well past the nail root, and the two side portions are torn out with dressing forceps. Great care must be used to separate the nail right down to the extremity. To do this thoroughly it is best to cut into the tissue beyond the nail base. If not incised thoroughly a new nail will grow from the minute fragment remaining. The toe is washed, dressed with iodoform and dry cotton and bound round tightly with rubber plaster; a proceeding essential to thoroughly close the gap left by the removed part. Immediate relief follows this little operation, and if the nail be afterwards cut in the form of a V, with the apex toward the nail base, there will be no recurrence.

A villainous practice among mothers is cutting the toe-nails of children in a round. In this way they promote spreading and ingrowing. These are small things, but the small things that go to make up the comfort of living.

In the treatment of that subject of the paragraphers witticisms, corns, the first essential is a proper foot covering, constructed on the principle laid down above. My own shoes I have had made in this way, and have had comfort from the first wearing, entirely escaping the usual martyrdom of "breaking in."

After getting a proper boot, the injurious results of pressure may be removed by the following paste:

℞ Acid acetic glac.....3 i.
Plumbi subacet.....gr. xx.
Adipis (ad).....℥ i.

Sig.—M. et ft. ung. Apply on small round of lint to cover growth, only.

This ointment, applied nightly, will destroy the superficial layers of epithelium and leave the

healthy skin below. With careful avoidance of pressure the corn will not recur. To prevent the caustic action on surrounding parts, I usually apply the paste through the aperture of an ordinary corn plaster.

Chilblain, a condition of localized inflammation produced by excess of heat or cold, in persons of low vitality and weakened fiber, presents in normal course the three stages of erythema, bullous eruption and gangrenous sloughing. A healthy, vigorous constitution is little liable, but the condition obtains easily with those of deficient vitality. Frost-bite, the most common form in our northern latitudes, in its primary form of erythema, should be treated by methods to immediately restore the temporarily lost vitality.

Gently rubbing with snow itself or by immersion in water gradually raised from a very low temperature to that of the body, the affection may be at once arrested. After restoration to normal heat, there is still a tendency to inflammatory action, and this should be combatted by applying on lint a gently stimulating lotion such as the linimentum camphoræ or terebinth, and carefully excluding air by swathing the parts.

In the bullous stage, the serum blister should be evacuated and a sedative lotion, such as the lotio plumbi subacet or the lotio plumbi c. opii, applied.

Should the condition go on to the stage of gangrene the sore must be treated as an ordinary gangrenous ulcer, strict antisepsis and cleanliness being necessary. Useful applications here are the lotio rubra, lotio nigra, lotio nitri acidi or the ointments of balsam peru, sanitas or picis liquida.

Bunion, a most plebeian affection, if often the most distressing and intractable. The same cause which operates in producing ingrowing nails, irrational footwear, causes here a localized bursitis of the metatarso-phalangeal joint, more especially of the great toe. The first essential is a boot which will remove all pressure from the affected joint. I have known the condition go so far as to cause necrosis of the heads of the bones and necessitate the operation of excision of the joint, or even the complete removal of the phalanges and metatarsal bone.

If the shaft of the bone be intact, less deformity and a more useful foot is formed by the removal of the heads or both bones and the forming of a stiff ball and socket joint, as in Fenwick's operation for excision of the knee joint. Briefly, this operation is performed thus: A linear incision is made over the outer aspect of the joint, and the head of the bones exposed by dissection with the metal handle of the scalpel. With the chain saw the necrosed slice is removed, the phalangeal end rounded in ball form, the metatarso concave in socket form. The parts are then apposed, the bones being sutured with a single silver wire if not coming easily together, the wound closed from air and treated with antiseptic precautions. A simple operation but by no means an easy one. Ordinary bunions, not requiring such radical treatment, should be treated as before stated by removal of the irritating pressure, with the application of soothing lotion and arnica or calc. carb. internally.

Patients often come with the unpleasant sensations of heated feet, or sweating feet. Trifling complaints, but causing great discomfort. For the first, a loose shoe with a porous cotton stocking is essential. This with the nightly application of the ointment of jaborandi will remove. For the latter, more in the way of constitutional treatment is required to correct the lowered vitality and weakened circulation. Night and morning, bathing the feet in dilute alcohol will afford great relief.

AMONG THE HAHNEMANNIANS.

By E. G. Rankin, A. M., M. D., New York.

THE vagaries of high potentization occasionally present themselves to the attention of the practitioner with painful and startling effect, demonstrating the magnitude of credulity of which the minds of a few are capable, and disconcerting not a little the advocates of the homœopathic principle when they contemplate that this delusion not only found its being, but still leads a parasitic existence within their ranks. This subject was called to mind by the following incident: While attending, a few weeks ago, a member of the family of a neighboring physician, I was informed that three weeks previous an infant grandchild had died under the following extraordinary circumstances: The child, who was about four months old, had, together with other members of the household, been exposed to sewer gas, the house it was subsequently shown having been permeated with the same from a serious leak in the soil pipe.

One afternoon, while suffering from ulceration of the mouth and what appeared to be a heavy cold with accumulation of mucus in the throat and chest together with fever, a weak solution of borax, about two grains to six ounces of water, was applied to the child's mouth—the mother said she simply moistened the baby's lips.

On the evening of the same day a Hahnemannian physician was sent for, who prescribed for the infant, saying he would call again in the following morning. The child died very unexpectedly during the night. The Hahnemannian, when asked what had been his diagnosis and treatment, replied, borax poisoning, and he had prescribed borax, presumably in a high potency.

What was the true condition of the child, and whether or not its life could have been saved, are

questions which at present I am not attempting to discuss. It suffices to say, however, that this fantastic treatment absorbed valuable time which otherwise might have been devoted to rational measures of relief. For any person legally qualified to practice medicine to suppose a fractional part of a grain of borax—a non-poisonous substance — would cause poisonous symptoms even in a young infant, and then, worse still, to prescribe a so-called potency of the same, is a condition that nothing can excuse.

Was the above circumstance due to ignorance or the blind fanaticism of the high potency advocate? Probably both, for the two go together.

It has been claimed that the Hahnemannians are clever observers of symptoms, whereas in reality the contrary is true. Their journals contain reports of case after case which not only clearly demonstrate a lack of knowledge of disease, but also failure to distinguish symptoms arising from natural causes from those attributed to the imaginary effects of fancied medicinal aggravation.

About a year ago a Hahnemannian was called to attend a lady suffering from biliary calculi. The patient was in great agony. He prescribed lycopodium M, that is the one-thousandth potency. It is needless to say there was no relief. After twenty-four hours of intense suffering the Hahnemannian was dismissed and relief obtained through rational treatment. When asked why he had done nothing to relieve the patient, he replied that in his opinion there was an aggravation of symptoms from the high potency of lycopodium, supposing such a fancy to have been a reality, why in the name of humanity was not some effort made to relieve the patient?

Some years ago a well-known Hahnemannian now deceased, was together with a medical man of another type attending a case of retarded and difficult labor. The latter gentleman, in order to save the child's life, delivered it with forceps; a profuse hemorrhage almost immediately occurred, he thereupon grasped the uterus through the abdominal walls and applied irritation to the cervix; the uterus responded and contracted. The Hahnemannian, after a few moments of profound thought, did his part and prescribed china 200,000th. Thereupon, hemorrhage having ceased, he complacently remarked, *he had never known the remedy to fail.* It may be that the other gentleman may possibly have thought the counter-irritation and firm abdominal pressure had something to do with the matter.

If this species of fanaticism went no further than its peculiar advocates it might pass unnoticed, but unfortunately others must suffer. It is a matter, however, of congratulation that this class of so-called practitioners are far from umerous.

It would almost seem that the exposure of this sort of treatment would soon eliminate entirely the number of its adherents, but it is a sad trueism that a certain proportion of our fellows have an irresistable impulse for permitting themselves to be duped.

The advocate of high potencies have always placed great importance upon the writings of Hahnemann's latter days, a time of his life when they were full of fanciful theories and false reasonings, to the majority of the homœopathic profession of the present day. Hahnemann's early writings only have weight, and even then must be sifted in the light of modern progress.

In the theory of high protentization we have the antithesis of the profuse venesection and crude treatment of the last century; the former, however, has the advantage, for fewer die when nature is left to herself than under the depleting treatment of two generations ago.

To the high potency theorist we are indebted for demonstrating two important facts, namely, that many ailments disappear without medication, nature establishing a cure, and that on the other hand, nature when left to herself unaided will often utterly fail.

RECENT LITERATURE ON SULFONAL.

Collected by F. H. Pritchard, M. D., Norwalk, Ohio.

THE DOSAGE OF SULFONAL. — Dr. Schneider (*Memorabilien*, June 13, 1892) reports the results of his experiments upon himself with sulfonal. He began by taking one gram, which was followed by sleep though it was restless, disturbed by dreams and succeeded by a sense of weight of great intensity in the head. A half gram was then tried, and though a quieter sleep was obtained it was also accompanied by dreams. He then continued to reduce the dose until he found that twenty-five cgms. would give him a quiet and restful sleep, sometimes for two nights at a stretch. The following day he was fresh and felt well. Now, when necessary, he takes two dgms. and obtains a good sleep for several nights, undisturbed by any disagreeable after results.

SULFONAL IN CRAMPS OF THE LEGS AND OF SINGLE MUSCLES.—Dr. Andrews (*Norsk Magazin for Lægevidenskaben*, No. 9, 1892) has found sulfonal to be an efficient remedy in the treatment of cramps of the leg muscles, at night. He administers a dose of one gram on retiring, or three to five decigrams three times a day.

SULFONAL IN EPILEPSY.—Dr. Bannatyre (*Norsk Magazin for Lægevidenskaben*, No. 5, 1892) employs sulfonal in inveterate cases of epilepsy with over-excitability of the cortical substance

accompanied with numerous attacks, therefore, in incurable cases where the bromides appear to have little or no action. Here the drug will decrease the severity and frequence of the attacks. The dose was from six dgms. to two grams, and four dgms., with the ordinary precautions for the use of sulfonal.

SULFONAL IN THE NIGHT SWEATS OF CONSUMPTION.—Dr. Crede (*La Riforma Medica*, 1892. *Norsk Magazin for Lægevidenskaben*, No. 5, 1892) says that a single dose of one-half to one gram of the drug will exercise a beneficial influence upon the night sweats of phthisis for several nights after another.

POISONING BY SULFONAL.—Dr. H. Fehr administered sulfonal to fifty-four patients in the Middelfart Insane Asylum, Denmark. Out of these twenty-three were males and thirty-one females, who in 2,104 days had taken 2,975.20 grams of solfonal. It was either given to produce sleep in a large evening dose or to keep them quiet during the day. The largest daily or single dose was three grams; as a rule from one to two grams were given. One single patient took, in 285 days, 362.75 grams of the remedy steadily, and only thus did one succeed in quieting his restlessness without producing any disagreeable after-symptoms. The majority of the other patients took not more than 100 grams. The writer states that the remedy did not answer his expectations. Not only that it often failed him and also produced disagreeable consequences, headache, sleepiness, weakness and a soft and often irregular pulse. In three patients where it acted well, all women, without any warning symptoms it developed symptoms of poisoning. Two of the cases ended fatally and the third survived. In all the cases there appeared pains in the lumbar region and loins, accompanied by vomiting; the urine was of a dark color, of a dark port-wine color, and where it fell on the linen of the patients it stained it a red color. The pulse was small and soft and sometimes irregular. In the two fatal cases there developed an ascending paralysis to a certain degree, which at the last rendered speech and respiration difficult. At first there was constipation, which was succeeded by involuntary passage of the feces. Death then followed. In the third case which recovered, there was only a slight paresis to be observed. A post-mortem was done in only one case where a chronic leptomeningitis, circumscribed softening of the dorsal portion of the cord, accompanied by hypostatic pneumonia of the right lung, with cyanosis of the liver and kidneys was found. The urine was not carefully examined for hematoporphyrine, but the coloring matter was not soluble in chloroform or ether, but was carried down with the phosphates. The dose in all three cases was moderate, but the amount *in toto* is not stated. The writer thinks that these cases should warn one to be careful with the use of sulfonal. *Hospital stidende*, R. 3, Bd. 9, S. 1121. The recent literature has given us a large number of poisoning cases from sulfonal. The German writers were the first to point out its danger, then followed the Danish, Swedish and other writers. Dr. Chr. Geill, of the Aarhus Asylum of Denmark, reported a series of cases of poisoning by sulfonal. In the last year's number of the *Upsala Lækersgoerenings Foerhandlangar*, the Swedish physiologist Hammarsteen, reported two cases of hematoporphyrine in the urine of two female patients who had taken sulfonal in large doses with a fatal result. Dr. Clarence Bartlett, of Philadelphia, in the May number of the *Hahnemannian Monthly*, presents a complete review of the symptoms from sulfonal poisoning. The review of "Insanity and Nervous Disease" contains a translation and of the cases of Scandinavian origin, made by me. The September number of the *Berliner Klinishe Wochenschrift*, No. 36, also has a short article on this subject. The chief characteristic of its action on the kidneys seems to be port-wine colored or cherry red urine. At first, if the urine be carefully watched, the urine will have a smoky or dark appearance as if a very little wine had been added. When that sets in the sulfonal should be shut off, discontinued. There is no necessity of waiting until the patient's kidneys are half ruined, and the dark port-wine colored urine is seen.

THE ART OF MASSAGE.

BY THOMAS CECIL, B. SC., M. D.,

Late Lecturer on Massage at the Bellevue Hospital Training School for Nurses, New York City, Masseur to His Excellency the President of the U. S. A.

PART III.

MOVEMENTS IN MASSAGE TREATMENT.

THE term movements should be understood the transient attitudes that are given to the different movable parts of the body, attitudes which the patient was unable to take, either through a pathological production or for want of exercise.

These movements do not include all the classes of movements indicated by the ancients. The class of active movements are not given, because they are made by the person himself without the assistance of another person. The other two movements indicated are such as passive—that is to say, made by the masseur without the help or opposition of the patient; and the semi-actives, or the semi-passive which Ling divided into active-passive and passive-actives, but which his successors very properly changed calling them double concentric and double excentric.

These two impressions require explaining. If, while the patient is executing an active move-

ment the masseur offers resistance, the form of movement is equally double, this is a double concentric movement or the active-passive of Ling. The explanation given by some authors of these movements and the name given to them by the ancients of mixed or active-passive as one, equally describes the same exercises these two forms of movements, which some authors in the olden time thought had been introduced in gymnastics by the founder of the Royal Swedish Gymnasium, I find described by Brahmins in India and nearly all the ancient gymnasts, and especially among the Chinese in the most distinct manner. Ling, then, can only claim the merit of having thought of the word active-passive and passive-active, and his successors two other much clearer appellations, viz., those of double concentric and double excentric. These movements form part of massage.

The movements used by masseurs or which the course the patient to use are:

1. Ordinary movements which the articulations possess in their physiological state, such as flexion, extension, abduction, adduction pronation, supination, lateral movements, rotation and circumduction.

2. Special movements, such as tractions and secousses which are applied more especially to the muscles. Unnatural movements only require being pointed out, but in describing massage I shall indicate the way to make them. I would here remark that on each articulation movements only should be used according to the physiological state. As to the special movements, I will describe right here:

1. Tractions are movements used on the articulations by pulling one part while holding the other, or by pulling one part in the opposite direction to the other these tractions above all, are recommended in cases of sprain, to facilitate the normal re-establishment of the soft parts which may have become displaced.

2. Torsions.—Torsions are movements which act upon the soft parts, principally the muscles; for that purpose you press the muscles between the fingers and twist them, or by twisting them transversely on the fibrous muscles. I have always seen the Brahmins in India insist, above all, on this manipulation.

Secousses.—These agitated movements quickly executed and with sudden jerks; these movements by the French tremblement ebrantement but they also call them *sonneur dè cloches*. It consists for the thoracic organs in taking the extremity of the patients' fingers and giving very rapid shocks to the whole body; for the pelvic organs, in giving shocks to those parts after having the metatarsus between both hands and proceed as with the hands.

The manipulations that a masseur is obliged to adopt to perform a good massage are numerous, though he is not expected to go down the list to execute an ordinary massage, but still he must make use of a great many, varying them according to the parts of the body he massers and whether the organ he wishes to influence is deeply or superficially situated. In fact according to the directions given him by the doctor.

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CLINIQUE.

ADMINISTRATION OF LARGE, SINGLE DOSES OF DIGITALIS IN CASES OF MITRAL INSUFFICIENCY WITH HIGH ARTERIAL TENSION.*

By M. HUCHARD.

THE patient in this bed, gentlemen, is doubly interesting, as she brings up a problem of both clinical and therapeutical importance. This woman is forty years of age. Has never had rheumatism. The extreme pallor of her face you notice at once, and also that she breathes with great difficulty. This variety of dyspnœa I call "effort dyspnœa." On auscultation you will hear at the apex of the heart a soufflé that is sharp, short and intense, heard faintly in the axilla and hardly heard at all at the back. I need not tell you that it is a case of functional mitral insufficiency. Notwithstanding this, I consider this patient to be an arterial case, because, if we had an organic mitral insufficiency of endocardial origin, we should hear an accentuation of the second sound to the left of the sternum, about the level of the pulmonary artery, showing an increase of tension in that artery. But as I have shown you that you can only hear it on the *right* side, at the level of the aorta, there is evidently an increase of tension in the arteries. Moreover, the heart-sounds have a bounding character when we make the patient walk. I have called your attention to the extreme paleness of the face, which is not usual in mitral disease, so that, notwithstanding the absence of albumen in the urine, I should call this case one of cardio-renal arterio-sclerosis, with functional mitral insufficiency and toxic dyspnœa.

You know already that exclusive milk diet works wonders in such cases, and in a few hours it will sometimes free the patient from dyspnœa. Such a result we saw in this same woman two weeks ago; but since then she has taken her usual food and the attack has returned. As her limbs were œdematous I was obliged to begin active treatment for this condition, and I ordered her accordingly a large dose of digitalis—fifty drops of the crystallized solution of digitaline made by Mialhé, given in one day at a single dose of a milligram, which is equal to four milligrams

* A bedside demonstration to students at the Bichat Hospital, Paris. (*International Med. Magazine*, May, 1892).

of the amorphous digitaline, or one-sixtieth of a grain. What, you will say, give such a large dose of digitalis when its accumulative effects are so well known? And to a patient who has a hypertension of the arteries? Besides, you often tell us that we must exercise great care in giving a medicine that is a poison, so that we may not substitute by our treatment a condition of affairs worse than the patient's original trouble.

To answer your objections. You say that digitalis acts slowly and accumulates in the organism. Well, that is a good reason for giving it in a massive dose; when you wish to make a patient sleep you give him at once a centigram (one-sixth of a grain) of morphine and not four doses of a quarter as much. The same reasoning applies to digitalis as for other drugs whose action is slow. You should not divide doses of such remedies, as they divide themselves in the body by their slow action and poor quality of elimination. In the employment of drugs that are eliminated rapidly you should always divide your dose, so that the organism shall be kept continually under the influence of the drug. I have often spoken to you of the epileptic case that was taking eight grams (one hundred and thirty-three and a third grains) of bromide of potassium without effect, but who got rid of the attacks by taking two grams (about thirty-three grains) at short intervals. You will get by far the best results with digitalis if you take care to precede it by a purgative and keep the patient on a milk diet. Besides, you must not be frightened by arterial hypertension from giving it. It does not so much increase this tension as it regulates it. You have seen that in this particular case the tension has fallen since the digitalis has been given.

Without doubt you must be careful not to give one poison to take the place of another, as you would do in toxic dyspnœa; but digitalis in this case brings on diuresis, and, therefore, causes an elimination by the kidneys of all the poisons that are in the organism producing the dyspnœa. So that by giving this drug and milk diet you fulfill two indications: First, the milk prepares the way for diuresis, and thus reduces the toxines to a minimum; and, second, the digitalis assists in establishing the elimination. You see the complete success we have obtained with this patient. After the purgative, rest in bed and milk diet, fifty drops of the one-thousandth solution of crystallized digitaline were given for one day at one dose. The next day the urine increased from two hundred grams to two thousand, and the day after to four thousand grams, or four litres (*i. e.*, four quarts). At the same time there was a diminution of the œdema of the limbs, while the mitral soufflé could hardly be heard. This proves once more to you all that it is not enough for a workman to have good tools, but he must know how to use them. In careful hands digitalis is a wonderful medicine and should never be dangerous in therapeutics.

CLINICAL NOTES ON IRIDIUM AND PALLADIUM.*

By M. Laboucher

IRIDIUM. Causes painful weariness of the lower limbs and weakness in the region of the kidneys, followed, however, by a favorable reaction. Feeling of *aplomb* and self-confidence; facilities mental labor.

Indicated in: Neuralgia of the head, especially the temples; neuralgic pains which drive one crazy. Open air and noise seem to bruise the head. Neuralgia of the limbs. Piercing and gnawing pains in the breasts. Cramps in the stomach. Acts chiefly on the nervous system; affects the medulla spinalis so as almost to produce paralysis, but afterwards greatly increases the strength. Formication, scraping and smarting pains in the hip-joints; sciatica, preventing rest in bed. Painful deep-red and glossy swelling of the thumb.

Chronic bronchitis, even with ulceration of the mucous membrane. Right hemiplegia, *when the temperature of the skin remains normal;* numbness and formication of the limbs; pinching pain in wrists and fingers (rheumatic paralysis). Abscess in the axilla. Arrests suppuration.

Swelling of the ovaries, without dropsy. Corroding and suppurating uclers of the uterus; bluish patches on the uterus. Acts better than osmium in uterine tumors with suppuration. Superior to aurum met. and aurum mur. in uterine diseases generally.

Ten-fold better than cinchona for the aged and persons exhausted by disease; for puny, weak-limbed children, and those who grow too fast. Admirable in all cases of anemia.

Palladium: Indications nearly the same as for iridium, especially in conditions of debility. Pains in the fore part of the head in excited and dangerous lunatics (better than osmium for these cases). Heaviness of the head; darting pains in the brain; cephalic pain, not neuralgic; vertigo, hallucinations, sensation of emptiness in the head. Violent startings when going to sleep, as if about to fall from a great height. Fever with delirium; cerebral fever; preferable to belladonna in typhoid fever, as not giving rise to the numbness which characterizes the latter remedy. *Insomnia with restlessness*; cardiac rheumatism with nausea; dropsy of the pericardium (a flow of water from the stomach is often noticed during its administration).

Epidemic Cholera: Cramps in the stomach or even all over; nausea, vomiting, diarrhœa, cyanosis; when given alternately with cuprum in

* *Revue Hom. Française*, February, 1892.

cholera cases the cramps and vomiting cease, and in one hour the patient gets much better.

Rheumatic symptoms the same as those of iridium, but without the paralysis. Abdominal distention during the menopause; in young girls, irregular menstruation, pains before, during and after the period; nausea, colic, malaise; profuse flow of black blood; menorrhagia. Twitching and cutting pains, swelling of the uterus. Indurated swellings and fistulæ of the anus (in alternation with sulphur).

Iridium, palladium, osmium and platina are all suitable in acute rheumatism, gout, swelling of the toes; also, in alternation, for tumors, cancers, polypi and paralyses; osmium always in the first attenuation, platina in the second, palladium in the third, iridium in the fourth.

HOSPITAL WORK.

BY H. L. RAYMOND, M. D.,
House Surgeon, Ward's Island Hospital.

ON SEPTEMBER 16th, there presented himself for treatment Edward H——, who gave a history and symptoms of alcoholic bronchitis, and was also considerably emaciated, due to lack of food, which he was unable to procure for some time previous to his arrival.

For about a week he appeared to improve. Later, however, he became very drowsy, slept most of the time, his urine decreased, and respiration became feebler. Small sized liquid bubbling râles were heard all over his chest, both in front and behind.

On October 3d he died of exhaustion.

On October 4th the following autopsy was held:

Body: Rigor mortis was well marked; body fairly nourished; costal cartilages of fourth, fifth, and sixth ribs of both sides ossified and have also colloid degeneration.

Heart: Weight, ten ounces. About four ounces of fluid were found in pericardial sac. The muscular tissue was firm. Aortic valves were incompetent and there were a few granulations on the mitral valve. Tricuspid and pulmonary valves were normal.

Left Lung: A considerable amount of fluid was found in left pleural cavity. There was also a few adhesions at apex. The lung floated and was emphysematous and œdematous throughout with acute congestion of lower lobe. On the inferior and superior surfaces of the fissure that divides the two lobes, several small round very hard particles were found firmly encapsulated. To all appearance they resembled bird-shot, and lead tests having been tried, the above was proven. No scars could be seen on any portion of the chest externally, yet they had probably been shot into the lung and the wound had healed without leaving a scar.

Right Lung: This lung presented the same condition throughout with the exception of the bird-shot mentioned above.

Stomach: Chronic gastritis.

Liver: Weight, sixty-four ounces. It was thoroughly pigmented with bile throughout, its substance being mahogany colored in appearance. The gall-bladder was distended, the bile gravel-like in consistency and of a very dark color.

Spleen: Weight, fourteen ounces. This organ was in a state of passive congestion. Its substance was gelatinous. Attached to its internal surface was a well-marked distinct lobe about three inches long by two wide, having same substance and consistency, thus making a double-lobed spleen.

The intestines were apparently normal.

Right Kidney: Weight, ten ounces. Capsule non-adherent; consistency firm; anæmic.

Left Kidney: Weight, nine ounces. The surface of this organ was lobulated, otherwise, it presented the same condition as the right kidney.

Bladder: This organ was distended with urine and its walls thickened.

The Position of the Human Nose with Reference to the Adjustment of Glasses.—Dr. A. C. Simonton (*Journ. Am. Med. Assoc.*) has found, by measuring a number of faces, that the eyes are not equi-distant from the nose, but that one pupil is usually from one-sixteenth to one-eighth of an inch further away. As glasses are ground and frames fitted without considering this lack of symmetry, he believes that a decentering of lenses results, which, in some cases, causes the patient to refuse them, though they correct the error of refraction perfectly. He advocates a new form of prescription, in which the distance of each pupil from the nose, as well as the distance between the pupils, shall be given, and the grinding of glasses centered to the eye and not to the frame.

How to Judge the Quality of Condensed Milk.—The general appearance when poured from a spoon should be glossy; the more glossy the better (*Scient. Amer.*). It should be ropy or stringy like very heavy syrup.

The color should be that of cream, but the color varies according to the season of the year in which the milk is condensed, the same as milk not condensed varies in color. Milk is more yellow in summer, when cows are on pasture, than in winter, when they are fed on dry hay.

Thickness varies with age. Thickening by age is natural to condensed milk; rapid thickening only proves that the milk is preserved in the best manner and retains in the highest degree the characteristics of milk in its natural state. The thickest condensed milk, if in sound condition, is the most valuable. There is a degree of thickness, however, that is inconvenient. If condensed milk is so thick that it will not run out when an open can is inverted, it is troublesome to dissolve. If it is not actually hard, very little stirring in the can will render it sufficiently liquid for convenient use.

Condensed milk, if properly done, does not destroy cream globules, but leaves the constituents of milk unaltered and natural. One method, therefore, of determining the relative quality of different samples of condensed milk is to ascertain the amount of butter that can be made from each.

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A NEW DEPARTURE.

UNION THEOLOGICAL SEMINARY, one of the oldest and most influential institutions for theological teaching in the United States, has broken away from the control of the General Assembly of the Presbyterian Church, and has taken a position of absolute independence. The cause of this movement is not of recent origin, but the sentiments of Prof. Briggs in his inaugural address, upon which the charges of heresy were founded, were so much in accordance with the spirit of thoughtful investigation which had been steadily gaining ground, that they served as a rallying cry, bringing the conservatives and the liberals into a fierce conflict for the supremacy of their views. Much of the creed formulated in the Westminster catechism had become a dead letter, and, as was said by one of the most prominent divines, never read by the laity at all and only by the clergy once a year. Union Theological Seminary is Presbyterian still, so far as church government is concerned, but in the independent position it has taken it has declared that no creed or no dogma shall hereafter be of sufficient binding force to fetter the freedom of thought or close the door against the influx of new ideas. In the new departure nothing is held too sacred in dogma or creed to be subjected to the crucial test of the search light of science and the logical deductions drawn from the most minute investigations in every department of the broad field of nature. In no one instance will God revealed in His Word be found to conflict with God revealed in His works, and biblical interpretation will go hand in hand in the closest harmony with scientific revelation. The theology of the future will include the vast world of science, teaching the lessons of harmony, of purity and truth by the ever unfolding of divine law and the results of its violation in nature and man. How to utilize the great study and revelations of THEOS to best produce their effects upon the lives of men will still lead to creed, the outgrowth of individual opinions, each perhaps pointing some truth best adapted to a particular class of minds, but these creeds will stand outside of the great study of GOD, through which the mind is led to that higher development in which the brute instincts inherited by our animal ancestors shall give place to the ever-increasing influx of Divine truth and harmony. What the Union Theological Seminary will be to the ministry in the church, medical colleges, to which will flock the great majority of medical students, will be to the whole profession, not the dogmatic expounder of only a distinct school or a single dogma, but far reaching in its scientific instruction, and full and minute in every department of clinical study. In this school of the future, psychology and a more minute study of the nervous system than has ever yet prevailed will be important features. The study of life in its broadest sense will include also the study of death, and the action of medicinal agents, from the standpoint of toxicology, antisepses, chemistry and hygiene, will give a clue to their remedial power. The preceptors' office, the hospital and dispensary will give that clinical teaching in which the action of medicinal and hygienic agents will be demonstrated and impressed on the mind as can never be done by books or didactic lecture. Without this enlarged form of instruction, and that, too, in abundance, the student will be obliged to learn the application of remedies to disease as he stumbles along the dark path with neither the touch, the sight or the mind educated to meet the constant emergencies in which he will be placed. The medical college which will rise above party or clique, and stand out as an independent organization controlled by no school, with its chairs filled by the ablest men in their separate departments, who have either outlived or are beyond the necessity of seeking lectureships to draw clients to their office or enhance their reputation, with clinical teaching from such an abundance of patients of every variety as daily flock to the doors of the Post-Graduate School, will be the schools of the future. More than one college in the United States is rapidly approaching that position, and the nearer they approach it the more they are

crowded with eager students and the higher are the attainments of their graduates. Success, after all, is what each man looks after in practice, and what, if possible, he is bound to secure.

THE CODE FIGHT AGAIN.

DRS. T. H. Manley and J. G. Truax, a committee appointed by the County Medical Association of New York (an association of seceders from the Medical Society of the County of New York) to report upon the action of the American Medical Association at its last meeting, in Detroit, in regard to the standing of the permanent members of the American Medical Association, who were also members of the Medical Society of the State of New York, submit the following:

"One year ago, at the meeting held in Washing, D. C., Dr. W. W. Potter, of Buffalo, was elected one of the Board of Trustees of the American Medical Association. Charges were then made and presented to the Association, said charges being referred by the Association to its Judicial Council. These charges were in substance to this effect, namely: Dr. Potter being a member of the Medical Society of the State of New York, an organization which had seceded from the American Medical Association, and renounced its allegiance to the said Association, should no longer be allowed to be a member of the Association, and should be removed from the Board of Trustees.

"Dr. Charles W. Brown, of Washington, D. C., made the charge against Dr. Potter. He was assisted in the presentation of the case to the Judicial Council by Dr. J. G. Traux, of N. Y., who acted as his counsel. Dr. Potter was ably defended by Dr. C. A. L. Reed, of Cincinnati, Ohio. After the Council had given both sides a patient hearing, extending over a period of three hours, they decided by a vote of seven to three that Dr. Potter was no longer a member of the Association, and ineligible to the position of Trustee of the Association.

"An effort was made in one of the General Sessions of the Association to nullify the action of the Judicial Council; all such attempts were defeated and the Convention in General Assembly always sustained the action of its council.

"The effect of this action is to disqualify all members of the Association who are also members of the Medical Society of the State of New York.

"At a subsequent meeting a resolution was passed appointing a committee of five from the American Medical Association to confer with committees of the same number from each of the two New York State organizations: The object being to see if some way could not be found by which the members from the Medical Society of the State of New York could be restored to membership in the parent Association."

This is an attempt to open the old question as to consultation, and somebody has to back down, or else leave the matter just where it has been for several years. The code is claimed to be based upon the Golden Rule, but that is a curious interpretation, which would prevent men from doing as they would be done by!

Too much code has made some members of the profession dogmatic, arbitrary and dishonest. The new code makes men their own judges of circumstances, and as it agrees with present conditions, men are made more truthful and honorable.

It seems curious to the progressive mind that antiquated rules which tend to injure society should be stuck to with such tenacity, but sooner or later they must yield and be relegated to the upper shelf.

It was on account of these facts, we presume, that the N. Y. State Medical Society took the action it did toward reform, and it deserves much credit for its courage. We feel confident that the American Medical Association, if it could bring out the rank and file of its membership, would sustain the action of the State Society, but in the mean time we hope the Society will stand out for the right and fight for it if necessary, as we are sure it will.

THE THERAPEUTICS OF PAIN.

IT has long been my belief, says Dr. Thomas J. Mays, in the *Philadelphia Polyclinic*, that all agents which are not transformed chemically by the body behave like mechanical forces, and that they can be so regulated that in minimum quantities they enhance, and in maximum quantities they interfere with or destroy bodily functions. The varying effects of friction give us an exemplification of this. Gentle friction produces a warm and healthy glow wherever it is applied, and is a valuable adjunct in relieving pain. But when you allow a rope to slide through your hands very fast the friction becomes too intense, and a blister is the result. In the first instance, you generate a force which moves in harmony with the bodily force, but, in the second instance, a severer application of the same agent awaken-

a force or disturbance which does not move in consonance with the body, and hence disease is the result. Some years after adopting this theory I undertook to demonstrate it by an experimental investigation. The frog's heart, which is the medium through which these results can be shown, when isolated and adjusted to an appropriate apparatus, will, when fed with blood, milk or some other nutritive material, continue to beat for a number of hours in succession and register its beats on a revolving cylinder. The highest beats which the heart makes, under these circumstances, represent the best working capacity of the heart. They represent its utmost muscular strength, under the influence of its best nutrient, viz., blood. Now, I found that by adding one part of morphine to 80,000 parts of blood, and transfusing the heart with this mixture, the pulse-beats rise perceptibly higher than they do under the influence of blood alone. For instance, under blood alone they rise to 15 mm., while under blood with the above-mentioned proportion of morphine they will rise 5 mm. higher, showing that the heart is capable of performing more work under minimum doses of morphine than it can under blood alone. On the other hand, I found that one part of morphine to 1,000 parts of blood will arrest the heart in systole. The morphine, not undergoing a chemical change or becoming oxidized, must increase the heart's activity and paralyze it by its mechanical action in varying quantities.

That which is true of morphine I have also found to be true of aconitine, atropine, veratrine, strychnine, curare, conium, cocaine, brucine, theine, caffeine, guaranine, hydrastine, piperidin, gelsemin, digitalin, quinine, colchicin, cannabin tannate, kairin, alcohol, chloroform, ether, ethyl bromide, chloric ether, chloral hydrate, carbolic acid and the mineral acids, the alkalies and the alkaline earths. All these give better results when administered in minimum doses than can be obtained from blood alone.

We have here, then, a picture of the mode in which these agents relieve pain. Like friction or the hot poultice, they supply mechanical motion to the disordered nerve, and raise it from a lower to a higher estate—from a state in which it gives rise to painful to a state in which it gives rise to pleasurable sensations. Such a condition is best brought about by these pain-relieving agents in small or minimum doses—that is to say, morphine or opium relieves pain best when administered in stimulating and not in narcotic or depressant doses. That opium has wonderful sustaining or stimulant power in small doses is shown by the fact that about four millions of people are daily consumers of opium, and thrive under its use. The palanquin bearers and messengers of India travel over almost incredible distances on nothing but a bag of rice, opium and water. The Tartar couriers, when compelled to travel night and day over the hot deserts of Asia, use opium with their scanty supply of food. The same is true of cocaine, strychnine, tobacco, arsenic, etc., all supporting the bodily forces under continuous and exhausting exertion.

Obviously enough, pain may be relieved by narcotic or maximum doses of these agents, but the question often is, how to relieve pain best without inflicting harm on your patient. Minimum doses will secure this end, although in emergencies of great and sudden pain you do not always have the time to adjust the proper dose, and under these circumstances the end justifies the means. It is easy to decide which of the two methods—whether giving a stimulant or a narcotic dose of an analgesic—is the most rational and scientific treatment. In the former way the nerve is elevated from its diseased to its normal state, and by the latter it is still further depressed.

DEATH BY FALL.

ACCORDING to a letter from London, in the *Am. Practitioner and News*, a good deal of attention has been drawn to the ideas of Prof. Heim, of Berlin, concerning death by fall. He has based his observations on personal experience and on a large number of cases which have occurred not only in the mountains, but also in war, in industrial establishments and in railway accidents. In all cases the feelings were the same, or rather they differed only in degree. These feelings are by no means such as those who have the misfortune to witness such accidents imagine. The victim, according to the professor, suffers no pain, no paralyzing terror. He is perfectly aware of what is going on. The time seems long to him. In a few seconds he is able to think so much that he can report for an entire hour on it. His thinking power is immensely increased. In almost all cases the past seems suddenly lighted up as by a flash of lightning. All phases of life pass before the mind's eye, nothing petty or unimportant disturbing the retrospect. Then gentle, soft tones sound in one's ears and die away at last when unconsciousness sets in. One hears the fall of the body, but does not feel it. It will be remembered that Mr. Whymper, who had a severe succession of falls once in the Alps without losing his consciousness, declares emphatically that as he

bounded from one rock to another he absolutely felt no pain. Persons who have had several limbs broken by a fall do not know which limbs are affected till they try to rise.

DR. GIBIER'S PASTEUR INSTITUTE.—The corner stone of the New York Bacteriological Institute, which Dr. Paul Gibier of the Pasteur Institute is now building at Ninety-seventh street and Central Park, was laid October 4th with appropriate services. The building will be 25x95 feet, five stories and basement, and will cost $65,000.

The private portion of the institute will be divided into two departments, a general medical and surgical division and a division for the treatment of special diseases. Dr. Gibier said that patients suffering from nervous diseases, as well as those bitten by mad animals, will be admitted to the institute, where a new method of cure following the general Pasteur treatment will be tried. The free treatment of persons suffering from rabies will be continued in the new institute, although it is from the treatment of private patients that Dr. Gibier hopes to defray the expenses of the bacteriological department.

Dr. Gibier opened the ceremonies with a brief address. He said: "I will limit myself to one point which may give you an idea of the beneficial future of this science, already so glorious, though only born a few years since. I hope that before long a cure for many contagious diseases will be discovered—consumption, diphtheria, cholera, typhus and others. Bacteriology may lead us to the discovery of the cure of that incurable disease, cancer."

THE argument of Commodore Chadwick, of the United States Navy, in his essay on "Temperament, Disease and Health," is very much in the line of Dr. Palmer's reasoning in his article on "Life," in the October issue of this journal. The leading idea of the essay is, that a specific rate of change is associated with temperament, and that a failure to keep up that change, more especially in a proper attention to the excretory organs, food and muscular exercise is the primal cause of organic disease, including fatty degeneration of arteries and tissues, osseous changes and a failure of nerve force. Organic disease and stricture of nervous energy, he thinks, arise from a failure to throw off with normal rapidity the particles which have lived, done their duty and died. With this idea kept in mind and acted upon, after the age of forty the chances of living to a hundred years, Commodore Chadwick thinks, would be as good as they are now to seventy years.

BIBLIOGRAPHICAL.

OPHTHALMIC DISEASES AND THERAPEUTICS. By A. B. Norton, M. D., New York and Philadelphia. Boericke & Tafel, Publishers, 1892.

The preface of the work entitled "Ophthalmic Diseases and Therapeutics" fully explains the reason of its original advent, and states the manner in which the work had been rejuvenated and amplified. There is a mournful apology on every page for its production. It is a great pity that a large portion of the works issued at the present day show a most meagre degree of new material, the main feature in them being the illumination of its new author or the money scheme of a publisher. We believe in the law elucidated by Hahnemann, but his mistakes have been a great misfortune to the homœopathic profession and for the people, inasmuch as the rational principle has been nearly smothered by the cloud of hypothetical symptomatology and potency craze which has caused disgust and ridicule by the Old School, in view of the insufficient tangible evidence, good sense and practical matter relative to the action of the law. We have made the law appear mysterious and complicated, when, in fact, it is quite simple; most of us, however, have learned that it is not universal. We believe that the real practical and reliable therapeutics of the homœopathic school placed in a book fully up in the etiology, pathology and general treatment of eye diseases would be a valuable aid to the general profession, irrespective of school, and of incalculable value to the afflicted. We regret the book before us falls so palpably short of such a place. Quoting the first edition, the preface states: "Our knowledge of pure effects of drugs upon the eye is unfortunately meagre, often quite indefinite and unsatisfactory." This sentence is the keynote of the situation, and contains the seed of failure in its unfortunate confession.

We have been very slow to place a proper value on the relation of nerve distribution to the various organs and tissues of the body, and of estimating the importance of reflex symptoms.

To illustrate, let us turn to *glaucoma*. We find there various antiquated causes for this disastrous disease, but fail to see mentioned the more recent cause given by a member of the bureau of ophthalmology of the American Institute at its meeting in 1890, in which the author suggests the possibility of its origin being trophic neurosis or vaso neurosis, in some cases referred to the cervical region. Such ideas should be noted as an advance, or a step out of the ruts, to say the least. If we have a reflex glaucoma consequent upon an hyperæmia of the cervical, then this becomes amenable to treatment. Now, if exophthalmic goitre can be relieved, as clinical reports will show in cases where cervical hyperasthesia exists, by the use of the cautery, does it not show (1) that the pathology of this work is not as modern as it should be? and (2) that a useful adjuvant in treatment has been omitted; and, lastly (3), that reflexes are of the greatest importance in locating difficulties in this specialty as in other diseases? We can not do the profession that justice which we would like to, as we are not writing a book, but will simply direct attention to a few of the defects of the work. Let us examine blepharitis acute, acute phlegmonous inflammation of the lids. It is quite evident that the doctor is not quite familiar with antiseptic surgery, or he would not delay external treatment in the first stage, use poultices in the second and fail to wash out pus cavities in the third. Such an inflammation is *septic* in character and needs vigorous measures instead of poultices, which, although softening for a few hours, thicken the tissues soon if continued, and rather aid the development of the septic material. Some medicated oil should be used, as it has been proven time and again that in inflammations of this sort or any ery-

sipelatous condition, such an application *relieves the pain, reduces the temperature* of the part, and arrests, as a consequence, the morbid process. The author recommends calendula, a remedy which will spoil of itself. How, then, can it be antiseptic? "For remedies, see blepharitis ciliaris." We look, and the same imposition presents itself to the busy practitioner: (1) the *local measures* used for blepharitis ciliaris will relieve most of the difficulties, and (2) that the thirty remedies recommended could be cut down two-thirds, the results being beneficial to the profession. Examine "ulcers cornea," and although the abominable poultice is, in exceptional cases, admitted as good treatment, and Saemisch's incision recommended in some cases, no mention is made of the *galvano-cautery*, one of the most potent agencies for sluggish ulcer in the cornea, for the reason that the application destroys the septic feature, and produces that capillary congestion necessary for healing and throwing off dead tissue. The "Ophthalmic Therapeutics," which really ends the book, is a mass of unreliable references, and as unscientific as it must prove unsatisfactory to the general practitioner. It would be a pity indeed if such a work (so cursorily examined) did not contain much that is reliable and of value to the homœopathic physician.

If the country physician—all those outside of the great metropolis—intends doing eye work, such a book will be found of great value in many respects, but we believe an old standard work should be on the same shelf for reference and guidance. M. O. T.

THE USES OF WATER IN MODERN MEDICINE. By Simon Baruch, M. D., Attending Physician to the Manhattan General Hospital and New York Juvenile Asylum, etc., etc. George S. Davis, Detroit, Mich., 1892. Vols. I. and II., pp. 343; 12mo. in one volume.

The scholarly author of this little *brochure* has presented us with a splendid elaboration of a subject which has been, particularly in this country, relegated to the sect known as "hydropathists," who have, as might be expected of such a class, nearly run it into the ground by their quackish methods.

We are glad to see that the term "hydrotherapy" is used exclusively and that the author has attempted to treat the subject precisely as he would any other therapeutic measure, viz., with a view to its individualization, for he says "it is as important to know how and when *not to use* water as how and when to use it, because, as will frequently appear, water is powerful for evil as well as for good."

We can not better show our appreciation of the work than to advise such readers as are interested in this subject to obtain and read it carefully, and they will, we are confident, find it both instructive and practical.

HOW TO FEEL THE PULSE AND WHAT TO FEEL IN IT. By Wm. Ewart, M. F. R. C. P. New York: Wm. Wood & Co.

Since the advent of the clinical thermometer the pulse is very apt to be neglected, and yet the pulse tells a story which can not always be learned by the thermometer. The indications of the pulse can only be taught in part by any book, as the delicate shades are only brought out by experience, but Dr. Ewart gives a great deal of useful information as to the characteristic pulse of peculiar conditions of the organism and how to locate them.

GONORRHŒA AND ITS TREATMENT. By G. Frank Lydston, "The Physcian's Leisure Library," Geo. S. Davis, Publisher, Detroit; price twenty-five cents.

A very excellent treatise on gonorrhœa, acute and chronic, with their complications, by a noted specialist of Chicago, with the latest and most approved treatment.

THE STUDENT'S QUIZ SERIES, edited by Bern B. Gallaudet, M. D. Published by Lea Brothers, Philadelphia. I. "Obstetrics, a Manual for Students and Practitioners," by Charles W. Hayt, M. D., house physician Nursing and Child's Hospital, New York. II. "Genito-Urinary and Venereal Diseases, a Manual for Students and Practitioners," by Charles H. Chetwood, M. D., visiting surgeon Demilt Dispensary, department of surgery and genito-urinary diseases. III. "Practice of Medicine, a Manual for Students and Practitioners," by Edwin T. Doubleday, M. D., attending physician New York Hospital, out-patient department, and J. Darwin Nagel, M. D., of the New York Polyclinic and the French Hospital. IV. "Gynæcology, a Manual for Students and Practitioners," by G. W. Bratenahl, M. D., of the Vanderbilt Clinic, and Sinclair Tousey, M. D., out-patient department Roosevelt Hospital.

It is astonishing the amount of information which can be condensed into a small space in the form of question and answer. In these little manuals, so far as facts are concerned, so clearly and concisely stated as to be easily found and remembered, the ground is intelligently and thoroughly covered. The illustrations are excellent.

THE PHYSICIANS' LEISURE LIBRARY SERIES. I. "The Electro-Therapeutics of Gynæcology." In Two Volumes, Twenty-five Cents Each. By Augustin H. Goelet, M. D.

In Part I. the author has presented, in a very clear but condensed form, the latest and most approved idea upon electro physics and electro physiology. In part II., devoted to electro therapeutics, the author has presented an outline of his own clinical experience, which covers over a wide field and is abundantly satisfactory.

II. "Contributions of Physicians to English and American Literature." By Robert C. Renner, M. D.

The volume is filled with short biographical sketches and quotations, mostly in poetry, from some of the brightest minds in English literature, many of whom we had no idea were physicians. Our profession, numbering among its names Akenside, Sir Thomas Brown, George Crabbe, Erasmus Darwin, John William Draper, Sir Samuel Garth, Oliver Goldsmith, Oliver Wendell Holmes, John Keats, John Locke, Smollett and a host of others, need not be ashamed of its contribution to general literature.

THE PRINCIPLES OF MEDICINE. By John M. Scudder, M. D. Sixth Edition. Cincinnati: John M. Scudder & Sons.

The object of this work, the author states, has been to so generalize the facts of physiology and pathology as to give a sound basis for a rational practice of medicine. The subjects discussed show extensive reading, close observation, original thought and a very clear and forcible manner of presentation, and will be found rich in information by physicians and scientists of all schools.

A MANUAL OF MEDICAL JURISPRUDENCE AND TOXICOLOGY. By Henry C. Chapman, M. D., Professor of Institutes of Medicine and Medical Jurisprudence in the Jefferson Medical College, Philadelphia. W. B. Saunders, Publisher. Price, $1.25.

The manual embraces the course of lectures on medical jurisprudence before the class in Jefferson Medical College, and includes a practical consideration of all subjects which the author's experience of six years as city coroner of Philadelphia led him to regard as the most important. We know of no work which condenses so much information in so small a space.

CORRESPONDENCE.

LETTER TO DR. JAMES A. CARMICHAEL.

ATLANTA, Ga., October 8, 1892.

DR. JAMES A. CARMICHAEL, New York City:

Dear Sir,—I have been reading with very great pleasure your articles in the TIMES on "Nervous Matter, What Is It?" In the August and September numbers you suggest that each rod and cone in the retinal layer of the eye receives but the one "rayon" of light for which it has an especial affinity. In this connection I would like to ask you a few questions, and, with your permission, offer a few speculative suggestions.

Tesla, that wonderful young experimental electrician, has shown that an electric current of 3,000 volts, alternating at only seventy vibrations per second, will, if passed through the human body, deprive it of life; but a current of 50,000 volts, if alternating 2,500,000 times per second, can be passed through the body without hurt—in fact, with apparent stimulation of the vital forces.

Now, does it not seem possible, and probable, too, that this great difference in effects may be due to a simple matter of discord and harmony; that the milder current, with its vibrations of only seventy per second being in violent discord with the vibrations of the atomic elements through which it passes, while the greater current, with its intense vibratory motion, 2,500,000 per second, may be more nearly harmonious or in consonance with it? Is this not possible?

Is it not probable that the one acts as an antagonist to the vital forces by opposing them with discordant vibrations, while the other, approaching more nearly their natural movement, stimulates them?

If it is true that, according to Thompson's theory of atomatic vibrations, the intensity of the atomatic vibration is what gives form, consistency, etc., to substances, to the elements, then is it not possible that different nerves, with different form, consistency, etc., have an atomic vibration peculiarly their own? Not only controlling their form and consistency, but influencing their function also?

Now, one step further; if each rod and cone, with its own individual rate of vibratory motion, appropriates but one "rayon" of light, is it not probable that it receives that one whose vibratory motion is in approximate harmony with its own?

Very truly yours, R. E. HINMAN, M. D.

The questions above propounded by Dr. Hinman are interesting, not only as an inquiry and an effort to determine, if possible, the electric nature of nerve-force, but also as to the velocity with which electric nerve-currents, if they be electric, pass. If Tesla, whose experiments, as quoted by Dr. Hinman, to determine the effects upon the human body produced by electric currents of different potentiality be correct, then a current of enormous vibratory velocity is not only not fatal, but tonic of the nerve-forces, while one of lesser velocity causes disastrous results. Now, is there any mode of accounting for this discrepancy in these effects, and if so, can we come any nearer to the solution of the affinity between the nerve-forces and the power that generates them and that mysterious agent that we call electricity? By reference to our article on "Nervous Matter" in this journal, it will be seen that we venture to offer a few suggestions, proposing to be explanatory of the possible generation of electricity in a nerve by reason of its molecular construction. We quote from what we there say: "Is a motor nerve motor, because of some peculiar molecular apposition or juxtaposition of the ultimate molecules of its construction, as derived biogenically from its motor cells, or from the white cerebral and spinal substance from which it proceeds. If so, can this peculiar apposition or juxtaposition constitute it a generator or factor of an impulsive or propulsive agency? Is there polarity here, and may we call it electric or magnetic, electro-magnetic, galvanic or dynamic, and does this bring us any nearer to the solution of this mysterious agency?"

We might quote farther, but if there be any value whatever in our suggestions as to the effects of molecular construction, then are we prepared to entertain the hope of understanding the "quo modo" of the effects of the transmission of electric currents upon the great nervous centers of the body as reported by Tesla. If we endeavor to form in our minds even an approximative estimate of the vibratory velocity of a current of electricity as represented in electric parlance by 50,000 volts with an alternation of 2,500,000 times per second, it is as inconceivable almost as the hope of estimating the velocity of the lightning's flash, or even that of light, which is declared to move at the rate of "185,000 miles per second, lowest calculation, or 195,000 highest." Can we estimate the velocity of thought, that can encompass the earth in "the twinkling of an eye," or measure its power, that can rule the world from the moment of its birth onward through all time? To return to Tesla, the only solution we can venture to offer as to the relative effects upon the nerve-centers of the two currents of such different vibratory movements is, that the slower current, supposing that the nerve-current far exceeds it in vibratory movement, would interpose itself as an obstacle to nerve-force transmission, and hence be inhibitory. May this be accounted for by the possibility of this inhibition producing dislocation of molecular apposition or juxtaposition, as we have ventured to call it, and from it the supervention of death? That being so, then it is easy to see that the more rapid current, being more directly in affinity and sympathy with molecular nerve-force, instead of being a hindrance and an obstruction, will serve rather as an adjuvant and promoter of its transmission.

In relation to Dr. Hinman's other inquiry respecting the visual operations of the retina, we quote from his letter: "If each rod and cone, with its own individual rate of vibratory motion, appropriates but one 'rayon' of light, is it not probable that it receives that one whose vibratory motion is in approximate harmony with its own?" In answer to this very sensible inquiry we suggest that, following out the ideas of Tesla in relation to electric currents and their effects upon nervous matter, it is natural that Dr. Hinman should apply the same to the effects of light upon the retinal rods and cones. But here we have to deal with the specific element of light, and of light too that, by the reflective and refractive influences of cornea, aqueous humor, crystalline lens and vitreous humor, has been changed and individualized into its primitive prismatic hues, before being permitted to be received by the individual rods and cones of the retina. In quoting from our articles upon this subject, Dr. Hinman writes: "In the August and September numbers you suggest that each rod and cone in the retinal layer of the eye, receives but the one 'rayon' of light for which it has an especial affinity." If he will permit we will remind him that he has omitted *one* most essential point in repeating our argument, and that is that not especial affinity alone, but *especial chromatic affinity* is what we particularly desired to impress upon our reader. The quality of color, and its individual affinity for its own special rod and cone is, in our belief, the true solution of retinal visual power.

A few words more in relation to light and its transmission, and they shall be words of affirmation of our belief in the correctness of Dr. Hinman's suggestion that "each rod and cone receives that one 'rayon' of light whose vibratory motion is in approximate harmony with its own." The transit of light and color pre-supposes vibratory movement, and their impact upon the retina must, of necessity, impose vibratory movement upon the rods and cones, the

vibration regulated by the relative ratio of undulation of both light and color.

Physicists have estimated a comparative velocity of transmission of rays of different colors, and that the "wave-length" of colors differ as well as their velocity of transmission. Of course, this must necessarily have much to do with individual perception of colors. A yellow ray, for example, will produce a certain amount of luminous and chromatic molecular vibration, and its "wave-length" will reach a certain projection. The red ray, another certain amount, and so on through the luminous and chromatic range, facts that must help largely in explanation of color-blindness.

But we are being led too far afield in the realms of physics and physiology and their endless fascinations. Let us conclude, then, with the suggestion, as respects vision, that chromatic affinity between luminous rays and retinal rods and cones must be sufficiently intense to produce the molecular vibrations that will project not only colors, but all other attributes of external objects brainward, and deposit them in their several cerebral visual regions.

We are now investigating the third special sense, the auditory, and taking exactly the same views respecting the effects of sonorous impressions upon the individual auditory nerve-fibrillæ that we have done in olfaction and vision. But of course the undulations of sound are more ponderable, and need membranous, ossicular and muscular adjuvancy to produce auditory impressions. But all the same, those impressions generate identical molecular and sonorous vibration and agitation upon the intensely vivid substantia gelatinosa of the auditory nerves, and because of a *sonorous affinity* between the two, we hear! We take occasion to thank Dr. Hinman for his sympathy in our work. We are all here to learn and teach each other. No man knows everything. True, we now and then meet an exception in the man who "knows it all," and when we do it's a spectacle for gods and men, and we can't help thinking of dear old "Bobbie Burns," who one day wrote:

"Oh! wad some power the giftie gi'e us
To see ourse's as ithers see us.
It wad frae mony a blunder free us,
And fulish notion.
What airs in dress and gait wad lea'e us,
And even devotion."

JAMES A. CARMICHAEL, M. D.

LETTERS FROM DR. ELMER LEE.

Grand Hotel d'Europe,
St. Petersburg, September 16, 1892.

To the Editors of the NEW YORK MEDICAL TIMES:

My mission to Russia is to demonstrate the value of conclusions of mine, which have been maturing for two years past, concerning the management and treatment of cholera, both as an epidemic and as a disease. Two weeks ago I came in the name of my profession to offer my observations; the deductions from successful treatment of diseases similar in symptoms to cholera. To-day my system of treatment, as personally directed by my own hands, is in daily use in the largest hospital in Russia. I have myself, personally, treated twenty-two cases, with twenty recoveries and two deaths. One of the two cases which died was moribund when received into the hospital. The other was cyanotic. The Faculty have voted to extend a trial of my treatment to other diarrhœal diseases of the bowels besides cholera for a period of six months, and to give me a report of the result. The treatment in vogue in Russia, and, I may add, Europe, has for its special feature the subcutaneous injection of a saturated solution of salt, sterilized and warmed, into the abdominal wall or posterior part of the thighs. The amount injected is one liter, and repeated as often as deemed necessary. For my part, I can't quite see the *practical* application of this procedure, and I have not realized the benefit in the results of cases which I have seen treated. My own system is as follows: Starting on the established basis that cholera is the result of a poison in the bowels, there are just two things to do, and which should be done without loss of a minute of time. First, to cleanse the colon; secondly, to destroy the infection, as far as possible, remaining in the smaller intestine. The cleansing of the colon is accomplished rapidly by irrigating with soap suds; and the disinfection of the contents of the small intestine is accomplished by large doses (100 grams) of hydrogen peroxide. The rest is repetition of the foregoing and nursing. This is simple enough, and who can say that it is not sensible? And this is to-day the American treatment in St. Petersburg for cholera, which is a substitute for the Italian solution of salt.

Dear Doctor, here is a hasty and abbreviated letter for your journal, which will be followed by a full letter later. Shall be in New York by October 15. Sincerely,

ELMER LEE.

Berlin, den October 13, 1892.

P. S.—My Dear Doctor,—Twelve days were spent by me as a resident physician in the Cholera Department of the Eppendorfer Hospital. I came to Berlin last night, and to-morrow I go to Paris for a stay of but two days. I sail on the "Columbia," Saturday, October 22d. During the stay in Hamburg, but two genuine cholera cases were received at the hospital, both of whom were treated by irrigation. The cases reacted satisfactorily, and the clinical charts present interesting pictures of the good effect of bowel cleansing. It is to be regretted that my visit was not made earlier, but as I was in St. Petersburg, Russia, it was not in my power to be in two places at the same time. A good many cases sent by the Hamburg police to the hospital were not cholera, consequently, while the daily reports indicated cases of cholera in considerable numbers, in truth, we had during this period but two cases of real cholera. I visited Professor Virchow to-day, taking with me the clinical charts and illustrations of the apparatus used for bowel irrigation. The professor was so much interested that he wrote for me a letter offering his congratulations for the first good results of my Anti-Choleraic treatment. Professor Virchow regretted that I could not have been in Hamburg a month earlier. During my visit with the new Rector of the University, I was impressed by his extreme simplicity and gentleness, almost amounting to affection. He exhibited to me a silver duplicate of the gold medal, which was given him by the medical profession of Europe and America, last year, on the occasion of his seventieth anniversary. The gold medal is kept for safety in a deposit vault; it is too valuable to be kept in the house. The front of the medal bears a medalion of Professor Virchow, and the obverse side illustrates the principal medical incidents of his life-work. The medal is some six inches in diameter. When I came away he said that he wished to be remembered to his friends in America."

Yours, ELMER LEE.

THE NEED OF MEDICAL CO-OPERATION.

The inability of the doctor to collect his just earnings exposes both him and his family to many hardships and worry that can only be obviated by united action, and the passage of needed laws. The opportunity offered the public of securing medical attention gratuitously when competent to pay causes a grievous loss to each individual member of the profession. The alarming extent of the abuse of medical services indiscriminately rendered will be partially realized by the following: The Johns Hopkins, of Baltimore, treats in its outdoor department 100,000 yearly. The Presbyterian Eye and Ear Dispensary over 36,000 per annum. More than fifteen dispensaries treat about half a million people yearly. Is it any wonder doc-

tors commit suicide, leave the profession to earn the livelihood other vocations offer? If you wish to remedy this state of affairs, join the Medical Alliance. It will be of money value to you, of comfort to you and your family, and therefore is of personal interest to you. The membership fee is only $2 a year. The Alliance is purely a business and protective organization. Those wishing further information send three two-cent stamps to Dr. J. H. D. Wolf, Baltimore, Md. Those desirous of joining please send $2 to the treasurer, Dr. R. B. Elderdice, McKnightstown, Pa. DR. J. H. D. WOLF.

SOCIETY REPORTS.

NEW YORK COUNTY SOCIETY MEETING.

The Medical Society of the County of New York held its eighty-seventh annual meeting October 24th, at which nearly four hundred ballots were cast for its officers. Dr. Charles Carroll Lee was elected president; Dr. William Stevens, vice-president; Dr. Robert Abbe, second vice-president; Dr. Charles H. Avery, secretary, and Dr. John S. Warren, treasurer.

Amongst the many interesting reports of committees, was one of especial interest presented by Dr. William A. Ewing, chairman of the Committee on Hygiene, giving an excellent résumé of the present sanitary condition of the city. Dr. Ewing said:

The report of Dr. H. D. Chapin of last year's committee called attention to the unsanitary condition of many public school buildings and their surroundings. Following this line of work, sanitary inspectors have inspected the immediate vicinity of each public school building, and wherever a nuisance was found an order was issued by the Board of Health for its abatement. In this way, much practical good has been accomplished.

Stables.—It must be conceded that important improvement in the conduct of the stables of the city has been accomplished within the last few years, and yet without entailing any considerable hardship upon their owners, by compelling the abandonment of all sidewalk manure vaults and all yard vaults which were offensive In these latter cases owners are compelled to keep manure within the stable, and in removal to load it within the premises, thus preventing the carrying of loose manure across the sidewalk, which formerly was a common nuisance.

Manure Dumps. — Large accumulations of manure, amounting to many thousand cart-loads, have been permitted in past years at the "Dumps," especially at the foot of East Forty-sixth street, and its removal in the springtime has been productive of very offensive odors, which were wafted to considerable distances; but for the past few years manure dealers have been compelled by the Board of Health, with the "Ladies' Health Protective Association" as the chief complainants, to load the fresh manure directly upon scows or cars for immediate removal from the city. Thus has been practically abolished a most grievous nuisance.

The manure carts in use in the city have shown some improvement in construction and in being better covered than in former years, but they are still faulty in both particulars.

Smoke Nuisance.—The consumption of bituminous coal in the city is a subject for serious contemplation. Its use on locomotives is unnecessary except for economic reasons.

Much has been accomplished by the Board of Health by compelling the use of anthracite coal or coke upon "switching" locomotives, but "through" locomotives still foul the atmosphere by the use of soft coal.

The clouds of smoke often seen issuing from the chimneys of wood-working establishments is a nuisance readily avoided by proper appliances and careful stoking. An occasional arrest of a careless stoker or proprietor would effect a mitigation of this nuisance.

Slaughter Houses, Etc.—The business of slaughtering cattle and "small stock," and the care of the resulting fat and offal, as conducted in the city, is capable of much improvement. The chief fault lies in improperly constructed slaughter houses and the irresponsibility of persons in charge.

The remedy lies in the construction of proper abattoirs, with facilities for promptly making fertilizers of the offal and rendering the fat while both are still fresh.

Scattered as the business is, it is impossible for the Board of Health, with its available force, to watch the slaughtering as it should be watched, both to insure cleanliness in and about the slaughter houses and to prevent the sale of the carcasses of diseased animals.

It is, indeed, humiliating to admit that there are persons so depraved who will not hesitate to sell for consumption as human food animals affected with tuberculosis.

The penalty for such a crime should be such that it will be committed but once in a lifetime.

Milk.—The quality of milk offered for sale in New York is far superior to that sold prior to 1873, when, largely through the efforts of Prof. Chandler, then President of the Board of Health, the sale of adulterated milk here was, for the first time, interfered with; but there still remains to be accomplished that which is far more important than the sale of watered milk, namely, the prevention of the sale of milk from diseased cows.

This must be accomplished at the dairies by a thorough inspection of cows and the food with which they are fed.

Your committee would strongly urge that the society give this question the attention which its importance demands.

Croton Water Supply.—The improvement in the quantity of water supplied to the city during the past year has been very marked, and its quality has generally been very good; but your committee would urge the necessity of a more constant surveillance of the croton water shed by competent authority to more thoroughly guard against the possibility of pollution of the water supply.

This precaution seems especially important during the coming year, on account of the more than possible appearance of cholera.

Unnecessary Noises in the Street.—Your committee thinks that the question of street noises is a subject worthy of consideration.

Much has been accomplished in this direction of late years by the laying of asphalt pavement, but there are many streets and avenues where this pavement is impracticable, on account of heavy traffic or steep grades.

There should be enforced regulations compelling trucks laden with iron girders and such like, to be so loaded with intervening pieces of wood or other material as to effectually prevent the infernal racket which we so often hear.

The unnecessary ringing of bells and whistling of locomotives has been practically abolished by the enforcement of orders of the Board of Health.

Disposal of Ashes and Garbage.—The present method of the disposal of ashes and garbage by dumping at sea, or rather in the mouth of the harbor, has no redeeming features.

The separation of ashes and garbage, at least in many wards of the city, *is* possible, if the Department of Street Cleaning did not empty both receptables into the same cart.

If, however, the separation of ashes and garbage be deemed inexpedient, then suitable crematories should be constructed almost anywhere along the rivers' front, or upon Riker's Island, where the resulting material may be profitably used in making land.

During a great portion of the year the mixture of ashes and garbage may be dumped behind bulkheads or cribs at

Riker's Island, or other places remote from habitations, without danger of giving offense, but during warm weather the remedy is cremation. As evidence that the process of cremation may be conducted with little offense, I would tell you that the chairman, during a visit to London in August, 1891, accompanied a health official of that city in search of a crematory in the Whitechapel district. Considerable time was spent in making inquiries of citizens, cabdrivers and policemen as to the location of the crematory, but no one seemed to know of its existence. Suddenly we came upon it. It was in full operation, and had been steadily burning for a period of three months without the use of any fuel other than that contained in the ashes and cinders mixed with the garbage, the strong draft of the lofty chimney proving sufficient to maintain combustion. No offensive odors were perceptible outside of the enclosure.

Your committee would strongly urge the importance of the adoption of this measure, or some other, whereby the harbor may be saved from destruction and the residents of neighboring watering-places be permitted to enjoy their otherwise charming surroundings without the defilement of the beach with offensive garbage and offal.

Care of Contagious Diseases.—With reference to the care of contagious diseases, much is still to be desired.

Great credit is due Dr. Jacobi and other members of this society for their zeal and energy in securing the establishment and maintenance of "The Willard Parker Hospital," which is but a sample of several which should be constructed in different parts of the city.

It is a source of gratification to know that there is a probability that in the near future the old "rookery" at the foot of East Sixteenth street, that has been used for so many years as a reception hospital, is to be torn down and a new and commodious reception hospital constructed.

Dr. Dessau, of this committee, has investigated many of the dispensaries of the city, and, so far as has been ascertained, no one of them is provided with proper facilities for the isolation of patients sick with communicable diseases

It is of frequent occurrence that children suffering from contagious disease are seated for a length of time among those with non-contagious disease.

The plain remedy is, that every dispensary be provided with proper isolating rooms, and that every patient upon entering the waiting-room be seen and properly disposed of by a physician, and not by a non-professional clerk.

The mortality from whooping-cough and its sequellæ is so great (averaging 450 per annum for the past ten years in this city) that it would seem that greater precautions should be taken to prevent its spread. Children suffering from the disease are permitted to frequent the streets, parks and public conveyances—indeed, some nurses appear to take a fiendish delight in thrusting children with whooping-cough into groups of well children.

Your committee would also call attention to another source of danger in the failure on the part of persons in charge of stores, especially where articles for children are sold, in exercising proper vigilance as to the existence of contagious disease among employees or their families.

Finally, with reference to cholera, the committee feel that it can not do better than to express its endorsement of the report of the Advisory Committee of the Chamber of Commerce.

Correction.—In our last issue we should have stated that the article of Dr. F. G. Œhme was a repertory of the clinicals of Dr. Allen's "Hand-Book of Materia Medica" and to the symptoms in his "Primer." There are several errors in the text, in consequence of the author's proof not reaching us. Tum. met. should be aurum met., ft. for zinc, expressed for suppressed, bar. t. for bar. c., nitr. at. oxal. at. for nitric ac. and ox. ac., erysipelatory for erysipelatous, arg. for ars., aug. n. for arg. n., symptomy for symptoms.

SEMI-ANNUAL MEETING OF THE HOMŒOPATHIC MEDICAL SOCIETY OF THE STATE OF NEW YORK, OCTOBER 4TH AND 5TH, NEW YORK.

THE proceedings of the society at this, its semi-annual meeting, were probably more noteworthy than at any meeting in the history of the society. In the first place, the society has greatly increased in membership of late, mostly due to its enterprising and public-spirited secretary, and gotten in some new blood of excellent quality. One of the most notable features of the society was, indeed, the character of its members. It is seldom that one meets anywhere a body of men and women so well educated and with so much mental caliber, and dominated, at the same time, with so great a degree of enthusiastic love of their calling, as was observable at this meeting. The papers presented and the discussion which followed were naturally broader and of higher tone and quality. The sectarian spirit was scarcely manifest at all. Exordiums on the specific law of cure were held in abeyance to the larger conceptions of means and methods at the hands and service of the profession. There was no laudation of Hahnemann. The Old School man would not have been out of place at this gathering of the nominal disciples of Hahnemann, nor would he have discovered, had he been present, that he was in a throng of New School men. It gave us great pleasure, as we sat and reflected, to observe the large stride the New School had made in the direction of practical medicine within the last decade; and our congratulations went out freely to the MEDICAL TIMES for its brave and earnest struggle in behalf of medical freedom and its influence in bringing about a result which was so devoutly to be wished.

The society was greatly favored this year in its president, Dr. W. M. L. Fiske—a dignified, liberal, broad-minded man, and well fitted to preside over an assembly of intelligent men and women. Although the subject of his address was a timely one and well presented, his recommendations, we fear, were impracticable.

The arguments brought forward by Dr. Fiske in favor of restricting marriage were not new. They have been presented over and over, yet the attention of the public can not be called too often to the fact that the taint of disease of certain character may crop out in succeeding generations, and that the only sure prevention is in purity of life and living. At present it would be impossible to draw the line by legislation in the great social problem so as to include on the one side in the privilege of matrimony all free from a taint which would be-

get disease in the offspring, and exclude all who by errors of life or other cause have planted deep in their organization the seeds of epilepsy, syphilis, or drunkenness which might lead to insanity or consumption in the individual or the offspring. However much the facts should be kept before the public we very much doubt whether the legislation suggested by Dr. Fiske would at present be timely or reach the evil. It is not unlikely that, to meet the exigency, we shall have to revive the custom of the ancients—that of "exposing" at birth the diseased and infirm.

A great wealth of notable papers were read, no, not that exactly—but presented at this meeting. A few papers of interest were read through, but by far the greater number were cut short by the "time limit" adopted—and necessarily so—by the society. The wealth of papers was so great that it was an impossibility to read them all in the two days' sitting of the society, and what were read were mostly read unintelligibly by reason of the rush and haste of the reader, naturally enough from a desire to get before the society as much of his paper as possible. Discussion of papers were restricted for the same reason. Surgery was well represented by Dr. Ostrom, and gynæcology by Dr. Lenora White. Dr. White's paper, a well written paper, was ably discussed by Prof. Mc.'Viggar, of Ann Arbor and Prof. Betts of Philadelphia. Prof. Mc.'Viggar is a good speaker, thoroughly lucid in his arguments, and entertaining. I should think he would be popular with his classes.

The bureau that made the least showing was that of mental and nervous diseases. Dr. Caldwell tried to show that electricity was, in his hands, a panacea for all the neuroses that flesh is heir to, and Dr. Church, of Passaic, followed with his idea—orificial surgery for the cure of insanity. According to that gentlemen, the great alienists of to-day and past days, have been in error in supposing that the cause of insanity was to be found in the nervous system. Schrœder Van der Kolk says that he never saw a case of mental disease but that he could find in the brain and its meninges, at the autopsy, unmistakable evidence of the malady. But this latter day, "light" on that subject denies this, and asserts that the cause is generally to be found in the anus! Of course, operating on that organ is the rational procedure for the cure!

Dr. Gorton followed this last speaker with a paper on neurasthenia. That gentleman got on pretty well with his firstly and secondly, when time was called, and he sat down having scarcely unfolded the merits of his subject. The theme is an important one, and it would seem unfortunate that the Society could not have had it fully presented. It is given in this number of the TIMES in full.

This was the fate of most of the elaborate papers, and it leads us to make a suggestion, namely: That a member of each bureau or department of medicine should present one elaborate paper which the other members of the bureau shall discuss, having been given an opportunity beforehand to read the paper and to prepare themselves to discuss it intelligently. This course would obviate the necessity of rush and hurry, and afford an incentive for members to write and present papers worthy the attention of intelligent men and women. Moreover, it cloys one's mind to have such a variety of topics presented in brief space which the prevailing custom involves. The Society has grown to such august proportions that some arrangement of this kind would seem to be a necessity.

Since the Society has become so broadly medical, what pretext is there for retaining the term "Homœopathic?" Why not call the Society "The Hahnemann Medical Society of the State of New York," or the name by which it was originally designated? D. A. G.

Dr. Geo. Taylor Stewart, Chief of Staff, reports 598 patients treated at the W. I. Hospital during September, with a death rate of 2.17 per cent. For the nine months ending September 30th, 3,831 patients were treated, with a death rate of 5.56 per cent.

OBITUARY.

DR. J. H. DOUGLAS, the throat specialist, who had the medical care of Gen. Grant during his last illness, died in Washington, October 1st, of the same disease which terminated the life of his illustrious patient. For the last few years of Dr. Douglas' life he was dependent on his daughter, who is a $900 clerk in one of the departments. Dr. Douglas was a man of recognized skill in his specialty, but, like many of his *confrères*, had saved nothing for the time when labor becomes only an ill-requited toil without pleasure.

The death of DR. JOHN JAMES DRYSDALE, of England, for many years the editor of the *British Journal of Homœopathy* and the author of a large number of scientific essays, removes from our midst at a ripe old age one of the earliest converts to the teachings of Hahnemann, and one of the ablest writers, most energetic workers and original thinkers in the school of which he was a pioneer. There was a logical force and scholarly finish in Dr. Drysdale's writings, with an originality in the presentation of his subjects which made them peculiarly acceptable to thoughtful minds, and which did much to build up the cause he had so much at heart among those whose influence from the standpoint of education and science was widespread and enduring.

TRANSLATIONS, GLEANINGS, ETC.

The Advantages of Abdominal Support During Pregnancy (Alexander Duke, F. K. Q. C. P. I., *Satellite*, April, 1891).—The usual forms of ladies' belts (without exception, as far as I know) fasten at the back, which necessitates the wearer assuming the upright or semi-upright position before the belt can be properly adjusted; whereas, by the belt being made to *fasten in front* (as I recommend), it can be put on each morning *before rising*, the belt being easily slipped under the sacrum and fastened from below up. The strap which passes round in front can then be tightened at will, and on the wearer resuming the *erect* posture the value and comfort of the support will be at once experienced. My advice to pregnant females, more especially primiparæ, is: *Leave off the corset from the fourth month of pregnancy till the time of labor; supplant the corset by a warm flannel bodice; wear the belt daily, leaving it off at bed-time, and replace before rising from bed each morning.*

I have seen nothing but good accrue from the wearing of my belt as I advise, and I only hope that my obstetrical brethren will recommend a trial of this simple plan, thus contributing much to the comfort of the pregnant female, preserving the natural symmetry and shape of her abdominal walls, mimimizing the risk of ventral hernia, and, above all, shortening the time of suffering during labor considerably.

Resection as a Substitute for Primary Amputation.—In a paper on this subject (*N. E. Med. Monthly*) Dr. Thomas H. Manley maintains the following conclusions:

1. That since the intelligent use of anesthetics, with the employment of efficient hemostasis, aseptics and antiseptics, besides the practical application of modern osteoplastic operations, primary amputation in civil life is seldom or never necessary.

2. When the local destruction of the tissues is so great and complete that the mangled parts hang together only by shreds or fragments of torn tendons, the primary dressing should include the complete severance of the limb.

3. In recent clean wounds involving the osseous structures, the free use of sterilized water is all that is necessary for cleansing purposes, and antiseptic solutions are not requisite, unless septic infection is feared or some phase of it has already developed.

4. Under favorable conditions the regeneration of bone is rapid, but to secure its maximum of utility the most assiduous care must be bestowed, for with it many shattered disorganized limbs may be restored to a fair degree of usefulness which without it might be regarded rather as incumbrances.

5. As our methods for preserving parts have advanced our responsibility has increased, so that at the present day no one should ever, except in the most pressing emergency, proceed to dissever a limb from the body without the concurrent opinion of the highest attainable medical authority within convenient reach.

6. The first duty to perform is to save the limb. If it should serve no useful purpose, ultimately, the question of its amputation is wholly beyond our province and is strictly a matter for the patient himself to decide.

New Operation for Hypertrophy of the Prostate Gland (E. B. Robertson, M. D., *Pacific Med. Jour.*, November, 1891).—Patient took a full dose of black draught at bed-time, which moved the bowels freely the following morning. At nine o'clock A. M. his bowels were washed out with a large injection of warm water. At ten o'clock the operation was performed, as follows: The patient being placed supine across the bed, with the nates near its edge and a pillow beneath the hips; his hands caused to grasp the ankles and secured by a few turns of a roller, as for lithotomy; the knees steadily held by Dr. Hutchins, I took up a scalpel, previously wrapped with adhesive plaster to within about three-quarters of an inch of its point, placed it flat on the palmar surface of the index finger of the left hand, with its cutting edge upwards; both finger and knife being well oiled, were passed as far into the rectum as the finger could reach. Then, by depressing the handle of the scalpel, its cutting edge was caused to divide the anterior wall of the rectum, the areolar tissue, the fibrous sheath of the prostate, and into the substance of the gland from its base to its apex. Owing to the great enlargement from behind forwards of the gland the incision was about two inches in extent. The finger and knife being withdrawn, the index finger of the right hand was introduced and its point insinuated into the incision; the gland being fragile, it was easily torn into two about equal parts.

The effect of this operation, as was intended, was to permit the escape of blood and serum, and thereby deplete and reduce the gland, and the division of the gland had the effect of removing the pressure from the urethra; in all of which I was neither surprised nor disappointed, and perhaps more than satisfied.

After the operation the patient was given two grains of acetate of lead and one of opium, to confine the bowels for forty-eight hours, at the end of which time a large enema was administered, by which the bowels were reopened.

On the fourth day after the operation the prostate was found, upon examination, to be reduced more than one-half in size, and the patient was passing urine voluntarily, and ten days later he went home quite well, and has remained so ever since.

I do not report this operation as infallible in all cases of enlargement of the prostate gland, but I believe that there are cases, like this one, in which this procedure may be made useful; and I have been thus minute in the details that I may not be misunderstood.

Pneumonia.—The following are the conclusions arrived at by Dr. Boardman Reed, in an elaborate paper on "The Teachings of Experience and of Rational Therapeutics as to the Treatment of Pneumonia" (*Therapeutic Gazette*, March and April, 1892):

1. That water locally applied, either by wet-packs or in the form of baths, after the Brand method, is the most efficient single remedy or therapeutic measure for acute pneumonia.

2. That either veratrum viride or aconite can accomplish more than any other single drug in the first stage, and that the same is true of digitalis as to the second stage.

3. That a combination of one of these cardiac sedatives with opium and diaphoretics affords not only a safe but eminently successful internal treatment for the first stage of acute pneumonia, being capable of aborting the disease when its administration is begun near the onset and repeated at short intervals day and night.

4. That venesection, though a most efficient means of treating sthenic forms of pneumonia, and, judiciously employed, considerably more successful than any merely expectant method, is no longer an indispensable resource in managing the disease, since other remedies have been found to accomplish the same results more surely and more pleasantly.

Perfumery and Hay Fever.—Dr. J. W. Stickler, of Orange, N. J., points out in the *Med. Record* that among all the casual irritants and aggravators, "perfumery used on the handkerchief is about as good a sneeze-producer as can be found. It surpasses rag-weed, golden-rod and everything else I know of."

MISCELLANY.

—A letter from Paris states that a French army officer desired to become a doctor, and to this end he consulted a philanthropic individual who had "assisted" several persons in passing their examinations. His method was simple and effective. He took the name of his client and stood the examination himself. But "practice makes perfect," and the "assistant" passed so high an examination that the case was looked into and his identity discovered. The jury, however, acquitted both after trial. This was in France.

—Sweat-bands of hats (says the *Prager Med. Wochenschrift*) may contain even twenty-eight per cent. of fatty acids which in summer may penetrate into the forehead, cause inflammation and corrode deeply into the skin. To avoid this, rub with burnt magnesia every little while, so as to leave a small film on the band; wipe off with a cloth before applying again.

—Acetate of alumina, which is rarely, if at all, used in this country, possesses anti-fermentative principles which are equal to those of corrosive sublimate, if we are to believe the statements of Billroth, Paul Bruns and Marion Sims. It is superior to most other antiseptics in this regard, and superior to all others on account of being non-poisonous.

—Dr. Henry Dessau, of New York City, in the *Medical Standard* for February, calls attention to the fact that the place to look for the earliest sign of the eruption of measles is behind the ears, extending up to the scalp where the hair begins. It can also be detected by irregular red points on the soft palate.

—A long-standing rule of the British Medical Association, prohibiting female practitioners from becoming members of that body has been recently abrogated by a large majority vote.

—At a medical society meeting in New York recently, Dr. Memdelson related the history of a case of death from a supposed foreign body in the larynx. A woman had awakened from sleep, had missed her false teeth, and had immediately come to the conclusion that she had swallowed them. Symptoms of distress and suffocation had come on. She started for the New York Hospital, and was picked up by the ambulance, partly insensible. After the history had been elicited and her condition been taken into consideration, preparations were made for immediate tracheotomy. Before this could be effected she died. Her false teeth were found in the fold of her dress.

—The children in a deaf-mute asylum in London recently gave a very successful theatrical performance of "Richard III," speaking only with a little slowness and an occasional jarring intonation.

—According to Dr. H. A. Kelly, permanganate of potassium and oxalic acid are harmless to the hands and are germicidal. Soap and water plus the permanganate of potassium and oxalic acid are true germicides and the best of disinfectants.

—Thirty-one million four hundred and seventy-five thousand five hundred and nineteen barrels of domestic beer were consumed in the United States last year, or over a barrel and a half for every man, woman and child.

—The statement that the arc electric light is not blue, but as nearly as possible that of daylight, will be a surprise to many. The most probable explanation seems to be that the nerves of the eye, which are sensitive to yellow light, become fatigued towards night, as yellow light predominates during the day. The arc light looks blue, both by contrast to the yellow and because the nerves, sensitive to blue light, are rested, and therefore more acute.

—Dr. Allan McLane Hamilton, says an exchange, has brought from Paris a new device for the treatment of nervous diseases, which is used there for hypnotic purposes. It is a little cherry box about five inches square, above which project two shafts, one within the other, sleeve and arm fashion. On each shaft is balanced a black bar nine inches long, an inch wide, and a quarter of an inch thick, edge up. By clockwork on the box these ebony arms or bars are made to revolve in opposite directions. Six little round mirrors are placed on each side of each bar. The patient is placed in a chair in a dark room, facing the machine. An electric light or any bright light is concentrated on the back arms of the machine by a convex mirror placed behind the patient, and then the arms are set a-whirling. The patient watches them whirl. The motions and the flashing light operate on the nerves through the eyes. Dr. Hamilton said he had patients put to sleep by this means, and some extraordinary cures were accomplished. The suggested explanation of the effect of the twirling arms and flashing lights is that they change the habit of the brain.

—The cultivation of the erythroxylon coca has been introduced into Hindustan. It grows like a weed in Madras, and the leaves are said to yield a cocaine fully equal to that obtained from the American coca.

—M. Huchard, in his fortnightly notes on therapeutics, points out how necessary it is, after giving a hypodermic injection of morphine, to maintain perfect silence in the room where the patient is lying. Morphine, far from suppressing sensitiveness, like chloroform, rather tends to exalt the excitability, and particularly the liability to disturbance from slight noises. The failure of morphine injections to produce sleep is, in the majority of instances, due to neglect of this simple precaution.

—At the Scoville Avenue M. E. Church, Cleveland, Ohio, the communion wine is now administered in small individual glasses. This new custom was adopted after careful deliberation, with the full consent of the pastor and laymen, and for excellent sanitary reasons.

—The *American Homœopath* says 50 parts sulphide of barium and 25 parts each of starch and oxide of zinc, with sufficient water to make paste, spread on a hairy spot, will in ten minutes, when scraped off, leave surface perfectly smooth.

—The only [regular] Chinese physician in the United States has just registered at the Health Office in Brooklyn, N. Y. He is Dr. Joseph C. Thoms, and has his office at 336 Greene avenue. He graduated from the Long Island College Hospital with honors at the last commencement. He is about twenty-five years of age.

—Dr. Weil claims that every form of vomiting of pregnancy can be relieved by a twenty per cent. solution of menthol in olive oil, ten drops taken in sugar whenever the nausea appears.

—M. Pasteur will attain the age of seventy years on December 27th. A subscription has been opened by a committee of the Society of Physical and Chemical Sciences at Copenhagen to offer him a medal on that occasion. The well-known Danish brewer, Mr. Jacobson, takes an active part in this movement, in recognition of the immense services rendered to the brewing industry by M. Pasteur's researches regarding fermentation.

—Dr. J. P. Rand, of Worcester, reports in the New England Medical *Gazette* some interesting microscopic work on tuberculosis of the lungs. Tuberli bacilli was found in seventy-two of the hundred cases examined, and of these forty-three died or over 50 per cent., and only four were improved. The bactercological institute now being erected in this city has a broad field for investigation in this and other germ diseases.